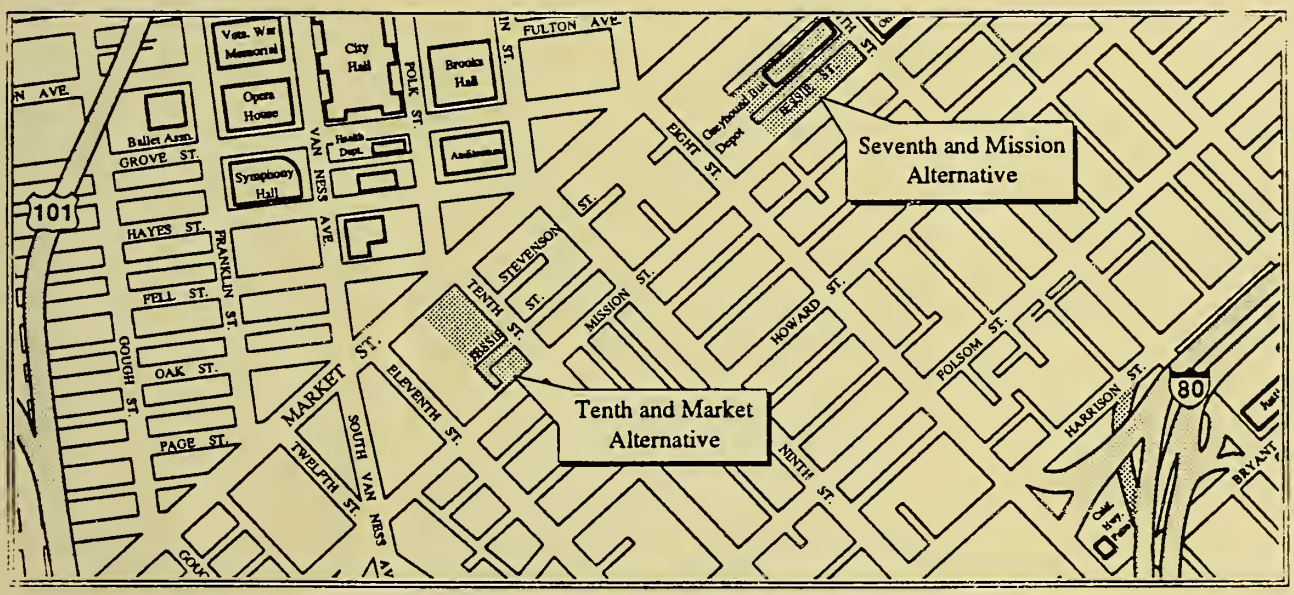
DRAFT ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

SAN FRANCISCO FEDERAL BUILDING CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

VOLUME I - TEXT



Project Number: NCA04000 (GSA) and 94.157E (SF)

Lead Agencies:
United States General Services Administration, Pacific Rim Region (NEPA)
City and County of San Francisco, Department of City Planning (CEQA)
San Francisco Redevelopment Agency (CEQA)

Prepared for:
UNITED STATES GENERAL SERVICES ADMINISTRATION, PACIFIC RIM REGION
Through GSA Contract Number: GS-09P-91-KTD-0074
Delivery Order Number: P-09-94-KT-0037

Prepared by:

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1050 Melody Lane, Suite 160
Roseville, California 95678

April 11, 1996

NOTICE OF PUBLIC HEARING

San Francisco Federal Building Draft Environmental Impact Statement/Report (DIES/EIR). Notice is hereby given to the general public that a public hearing on this DEIS/EIR and other matters will be held by the City Planning Commission, San Francisco Revelopment Agency Commission and the U. S. General Services Administration on:

Thursday, May 23, 1996
Room 428, City Hall, 401 Van Ness Avenue

The meeting will begin at the Planning Commission at 1:30 p.m. Please call 558-6422 during the week of the meeting for a recorded message giving a more specific time for the hearing.

The General Services Administration (GSA) is proposing the construction of a new Federal building in San Francisco. Remaining on-site buildings would be demolished, and a new building constructed. The building would contain about 675,000 gross sq. ft., or 475,000 occupiable sq. ft., and 161 parking spaces. The structure would be up to 22 stories and a maximum of about 315 ft. tall. There would be about 2,740 employees. Two sites are analyzed; the southwest corner of 10th and Market Streets and the northwest corner of Seventh and Mission Streets.

A Draft Environmental Impact Statement/Report (DIES/EIR) has been prepared regarding this project by GSA, the San Francisco Department of City Planning and San Francisco Redevelopment Agency. A copy of the DEIS/EIR and documents referenced in the DEIS/EIR are available for public review and comment at the Planning Department offices at 1660 Mission Street and the GSA Portfolio Management Office at the Phillip Burton Federal Building, 450 Golden Gate Avenue, Third Floor, San Francisco. Written comments will be accepted until the close of business on June 6, 1996. Comments should be mailed to:

Ms. Joan Byrens, Asset Manager (9PT)
U.S. General Services Administration
Phillip Burton Federal Building and U.S. Courthouse
450 Golden Gate Avenue
San Francisco, California 94102-3400

April 11, 1996

Dear Interested Parties:

The U.S. General Services Administration (GSA) is proposing the construction of a new Federal Building Office Building with 675,000 gross square feet of building space in the Central Business District of the City of San Francisco, California. The primary purpose of the proposed project is to provide urgently needed office space for several administrative agencies.

In accordance with the National Environmental Policy Act (NEPA) and the Council of Environmental Quality Regulations (40 Code of Federal Regulations 1500-1508) and the California Environmental Quality Act (CEQA), GSA invites your comments on the development alternatives within the attached Draft Environmental Impact Statement/Environmental Impact Report. A public meeting is scheduled to provide the community with an opportunity to submit oral or written comments on the DEIS/DEIR. The meeting will be held on May 23, at a time and location to be announced later. If a sign language interpreter, assistive listening device, or any aids for visual impairment are required, please contact Ms. Joan Byrens at (415) 522-3495 within 5 days of the meeting.

In the event that persons are unable to attend the meeting, please submit written comments on the DEIS, no later than June 5, 1996 to:

Ms. Joan Byrens, Asset Manager (9PT)
U.S. General Services Administration
Phillip Burton Federal Building and U.S. Courthouse
450 Golden Gate Avenue
San Francisco, California 94102-3400

Additional loan copies of the DEIS/DEIR and Technical Appendices are available for review at the San Francisco Public Library located at Civic Center, at the City Clerk's Office at City Hall, and at the GSA Portfolio Management Office at 450 Golden Gate Avenue (2nd Floor), San Francisco, California. If you have any questions concerning the proposed San Francisco Federal Building project, please contact Ms. Joan Byrens of my staff at (415) 522-3495.

DRAFT ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT (DEIS/EIR) FOR THE SAN FRANCISCO FEDERAL BUILDING

Project Number:
NCA04000 (GSA)
94.157E (SF)

Contract Number:
GS-09P-91-KTD-0074

Delivery Order:
P-09-94-KT-0037

Lead Agencies:

NEPA:
United States General Services Administration, Pacific Rim Region

CEQA (Co-lead agencies):
City and County of San Francisco, Department of City Planning
San Francisco Redevelopment Agency

Title of Action and Location:
San Francisco Federal Building
City and County of San Francisco, California

Point of Contact:
Ms. Joan Byrens, Project Planner
General Services Administration (GSA)
Portfolio Management Division (9PT)
Public Buildings Services (PBS)
450 Golden Gate Avenue, 3rd Floor
San Francisco, California 94102-3400
(415) 522-3495

Date:
April 11, 1996

ABSTRACT

The Proposed Action includes the construction of a new Federal Building with approximately 475,000 occupiable square feet (675,000 gross square feet) of building space within the City of San Francisco. The purpose of the Proposed Action is to consolidate federal agencies housed in multiple locations in order to increase their efficiency and reduce the amount of government leased space currently held in the City. Five alternatives were examined within the EIS/EIR, including the Tenth and Market Alternative, the Seventh and Mission Alternative, a Purchase Alternative, a Lease Alternative, and the No Action Alternative which represents continued use of the existing government owned and leased space.

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SUMMARY

(x) Draft ( ) Final Environmental Impact Statement/Environmental Impact Report

NAME OF PROPOSED ACTION: San Francisco Federal Building
City of San Francisco,
County of San Francisco,
California

RESPONSIBLE AGENCY: United States General Services Administration,
The Pacific Rim Region

TYPE OF ACTION: Administrative

RESPONSIBLE OFFICIAL:

Direct Inquiries to:

Name:	Ms. Joan Byrens
Title:	Project Planner
Address:	GSA, Public Building Service, Portfolio Management Division (9PT) 450 Golden Gate Avenue, 3rd Floor San Francisco, California 94102-3400
Telephone:	(415) 522-3495

THE PURPOSE AND NEED FOR THE ACTION

The General Services Administration (GSA), in cooperation with the San Francisco Redevelopment Agency (SFRA) and the City and County of San Francisco, is proposing the construction of a Federal Building with approximately 475,000 occupiable square feet (OSF)(675,000 gross square feet). The purpose of the building is to consolidate federal agencies housed in multiple locations to increase their efficiency and reduce the amount of government leased space currently held in the City. Law enforcement agencies not suitable as lease tenants would also be housed in this building.

The federal government agencies are currently housed in numerous buildings throughout the City of San Francisco and other surrounding Bay Area cities. The federal government's goal is to achieve at least a 75 percent owned ratio of space in the City. By 1999, assuming the completion of all projects now underway or planned, and assuming the development of a new

federal office building, the federally owned portion of the inventory would increase to 75 percent.

Because GSA is acting as the "lead agency" for this project, it is responsible for fulfilling the requirements of the National Environmental Policy Act (NEPA). NEPA requires the preparation of EISs for federal actions with potentially significant effects on the environment. Similarly, California has legislation which establishes environmental policy on the state level. Under the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR) must be prepared for certain development actions. This document, as a combined EIS/EIR, fulfills the mandates of both CEQA and NEPA.

DESCRIPTION OF THE PROPOSED ACTION

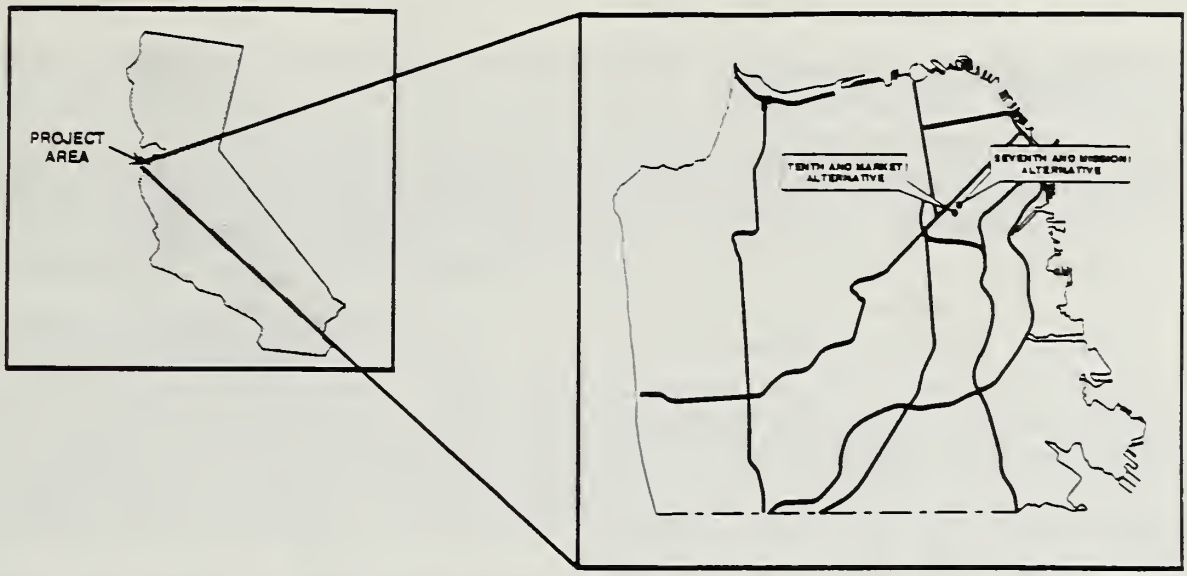
The General Services Administration is proposing the construction of a new Federal Building in the City of San Francisco (see Figure S-1). The structure would contain approximately 475,000 occupiable square feet (OSF)(675,000 gross square feet). A total of 161 parking spaces will be included as part of the project consisting of 114 secured underground spaces and 47 surface spaces. The structure would be approximately 22 stories tall reaching a height of approximately 315 feet. The new building would house approximately 2,740 employees upon its opening.

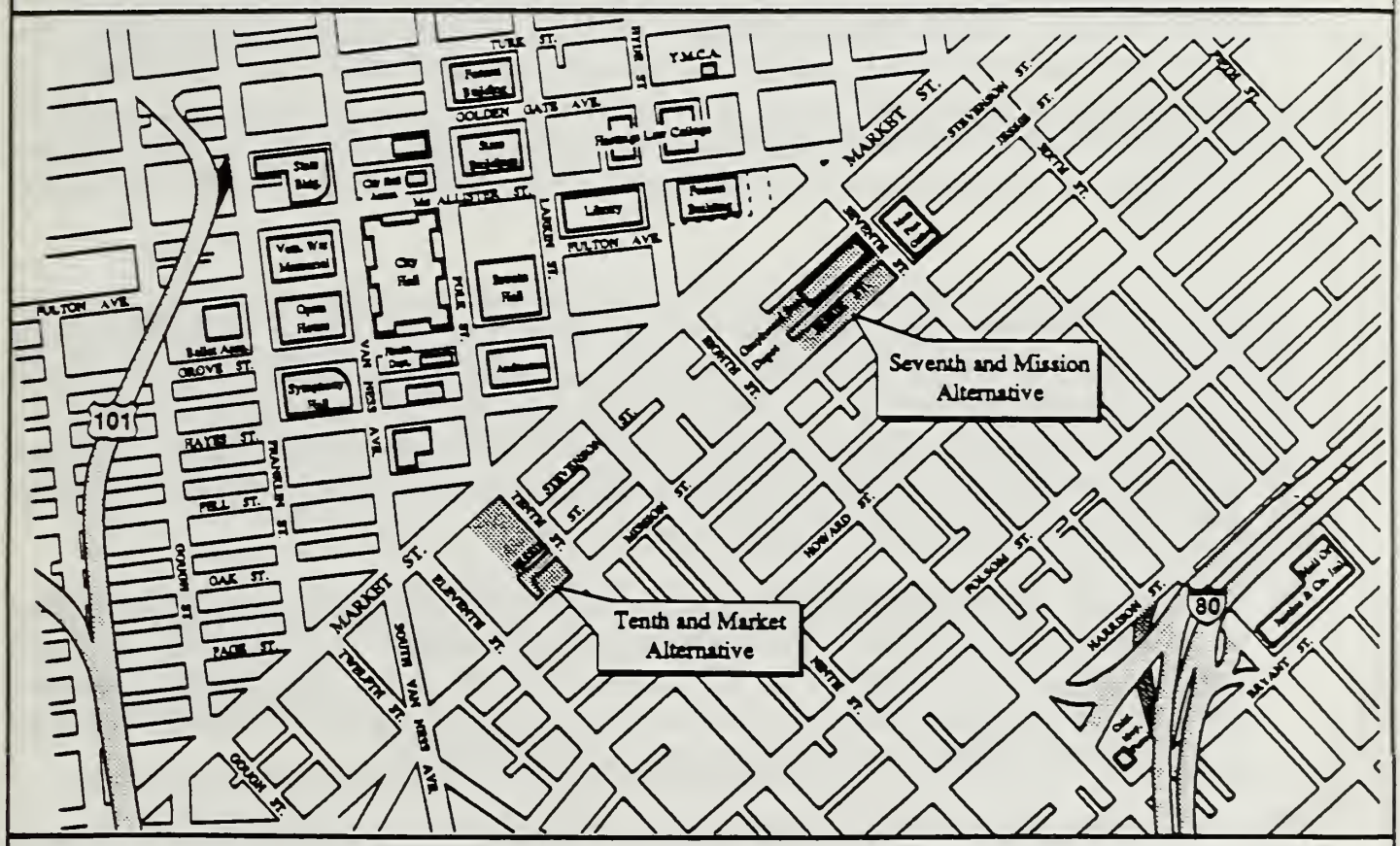
Under two of the alternatives considered in this document, GSA would acquire the site for the project from SFRA which would, in conjunction with the Board of Supervisors, adopt a Redevelopment Plan for the proposed site, acquire the site from the current landowner, and reconvey the site to GSA.

DESCRIPTION OF THE PROJECT ALTERNATIVES

In accordance with the NEPA, and CEQA, the United States General Services Administration, SFRA and City are considering a range of alternatives that could feasibly attain the basic objectives of the proposed project. NEPA and CEQA do not require that an agency consider every possibility, but require that the range of alternatives be comprehensive and reasonable so that the agency can make a "reasoned choice" among them. Five project alternatives, including the No Action Alternative, are examined in this EIS/EIR and are representative of a reasonable range of alternatives. Each of the alternative project sites is located within the City and County of San Francisco, California.

Each of the five alternatives analyzed in this EIS/EIR is further described in the discussion below.





BASE MAP SOURCE: California State Automotive Association

(NOT TO SCALE)

PROJECT SITES LOCATION MAP

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure S-1

Tenth and Market Alternative

The Tenth and Market site is an approximately 95,000-square-foot parcel comprising half of the block bounded by Tenth Street to the northeast, Market Street to the northwest, Eleventh Street to the southwest and Mission Street to the southeast. The northwesterly portion of the site fronts on Market Street, the northeasterly portion faces Tenth Street and the southeasterly border of the site abuts Mission Street. The southwestern site boundary is a line which roughly bisects the block. Jessie Street presently enters into a portion of the site and serves as side or rear entrance to several of the existing buildings on the site. Jessie Street would be abandoned to accommodate the project. (Note: Streets in the South of Market area run generally northeast-southwest and northwest-southeast. For ease of reading this document, northwest-southeast streets such as Tenth are referred to as north-south and northeast-southwest streets such as Market Street are referred to as east-west.)

The northern portion of the project site is currently covered by six buildings that range from two to five stories. Buildings fronting Market Street contain retail and service businesses. The buildings at mid-block fronting Tenth Street are mostly vacant. A private non-profit agency, the Independent Living Resource Center, is located onsite. A former car wash and pump island canopy are located on the corner bounded by Mission and Tenth Street. The Bank of America Data Center is located immediately to the west of the project site and occupies the other half of the block.

Prior to acquisition, SFRA would include any alternative site in a redevelopment survey area and prepare a Preliminary Redevelopment Plan for review and approval by the City Planning Commission. Following completion of the Preliminary Plan, a Final Redevelopment Plan would be prepared for approval by the SFRA, reviewed by the City Planning Commission for conformity with the City Master Plan, and adopted by the Board of Supervisors. The Final Redevelopment Plan and any other authorizing actions would be approved following certification of this environmental review document pursuant to CEQA.

The Tenth and Market Redevelopment Project Area is a newly designated redevelopment survey area (Resolution No. 161-93). The Tenth and Market Alternative site comprises the entire Redevelopment Area. Currently, the site is owned by Bank of America. The San Francisco Redevelopment Agency (SFRA) would acquire the site from the Bank of America and convey the parcel to the Federal Government for the new Federal Building.

SFRA, in accordance with state and Federal law, would relocate existing businesses presently located along Market Street to other locations. The site would be conveyed to the Federal government in a clean and developable condition. Prior to conveying the property to the City, Bank of America would demolish the structures and cleanup any hazardous wastes found on the site.

SFRA has determined that the proposed redevelopment would remove existing conditions of blight, including deteriorating structures, incompatible mixtures of land uses, under-utilization of land and any contaminated soil. In addition, the proposed redevelopment would provide for the replacement of such blight with a new office building providing economic benefits to the City from the retention of a large payroll and the purchase of local services to support its operations (City and County of San Francisco, April, 1993).

Seventh and Mission Alternative

This site is located on the southeast corner of the block bounded by Market Street on the north, Seventh Street on the east, Mission Street on the south and Eighth Street on the south. This site contains 158,861 square feet. The parcel abuts the corner of Mission and Seventh Streets and was formerly used as a Greyhound bus station. Currently, most of the site is used for surface parking. Two former hotels are located on the northeast corner of the site. These would be demolished prior to the site development. GSA had previously examined the site as a possible location for the federal building. The site's proximity to the Federal Court of Appeals is considered a positive attribute.

The redevelopment process would be the same as described above for the Tenth and Market Alternative. The site is currently in private ownership.

Purchase Alternative

Under this alternative, GSA would purchase an existing building to consolidate several federal executive agencies in one location. No site is specified in the EIS/EIR for a building purchase. If this alternative were chosen by GSA, the requirement for a building would be advertised, and selection would be made by competitive action. For the purposes of this document, the analysis assumes that an office building would be purchased which approximates the space needs of the federal agencies to be housed (475,000 OSF). GSA has conducted an informal site search and several properties were identified and analyzed for suitability. Specifics regarding the properties are confidential. All buildings examined would likely require renovation or modification to meet the special needs of the federal agencies that would be housed in them.

Lease Alternative

Under this alternative, GSA would attempt to acquire leases of large blocks of commercial office space in the Downtown or near the Civic Center. The goal would be to consolidate agencies which are currently split into two or more locations. This would increase the efficiency of the individual agencies. However, it would not accomplish the government's goal of housing 75 percent of its agencies in federally owned space.

San Francisco currently has little available lease space that would satisfy the large block requirements of the federal agencies that need to consolidate. There is no advantage to finding additional leased space if it does not at least accomplish the goal of consolidation. Acquiring additional or different leased space would generally not result in noticeable environmental impacts. Renovations required by specific agency needs may create short-term, construction-related impacts. The EIS/EIR identifies those impacts and discusses them qualitatively.

No Action Alternative

NEPA Section 1502.14(d) requires that an "alternative of no action" be included in the analysis. Similarly, CEQA Section 15126(d)(4) specifies that the "no project" alternative be evaluated along with any associated impacts. The No Action Alternative represents the status quo and provides a baseline for estimating the effects of other alternatives.

Currently, the federal agencies proposed as tenants for the new building are predominantly scattered throughout the City in leased properties. Under the No Action Alternative, SFRA would not convey or purchase the site. No new Federal Building would be constructed. Federal agencies would continue to meet their space needs by being housed in existing government-owned and leased space.

AFFECTED ENVIRONMENT

San Francisco is a major metropolitan area in northern California and the west coast. The new facility will be located within the city limits of San Francisco, California. The City of San Francisco is located within San Francisco County. The nine county San Francisco Bay Area totals approximately 7,000 square miles[1]. The population of San Francisco in 1993 was approximately 752,000[2] (Department of Finance, May 1994). This represented a 3.9 percent increase from 1990 when the population was 724,000.

ENVIRONMENTAL CONSEQUENCES

Of the sixteen impact issues covered, several stood out with regard to the Tenth and Market Alternative and the Seventh and Mission Alternative.

Hazardous wind conditions are the most important issue for the Tenth and Market Street Alternative. Considerable additional study was undertaken to find a building configuration that did not exacerbate the existing wind conditions. While a building could be designed that did not greatly alter current conditions and would, in fact, improve them to some degree, the impacts

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[1] ABAG uses a nine-county area. GSA uses a five-county area.

[2] The City of San Francisco estimates this number as 760,000.

still would be considered significant. This is due to the fact that additional people would be introduced to this already very windy environment, and existing exceedances of the hazard criteria would continue. Less severe, but nevertheless important, the project would generate some additional traffic and air quality degradation. The project would tend to have a beneficial impact on socioeconomic conditions.

Wind is not as serious an issue at the Seventh and Mission Alternative site as it is at the Tenth and Market Alternative. The issue that appears most prominent for the Seventh and Mission Site is historic resources. The building would be set adjacent to an historic district (Market Street Theater and Loft District) listed on the National Register of Historic Places. The U.S. Court of Appeals, Ninth Circuit, a National Register property is across Seventh Street. However, potentially significant impacts could be mitigated through design. The project would tend to have a beneficial impact on socioeconomic conditions.

Figure S-2 summarizes the impacts associated with each of the project alternatives. For each issue area, the worst degree of short-term, long-term, or cumulative impact that would result from project implementation appears in the table. A description of the coding is given below the table and a brief discussion of each issue area follows.

Geology and Landform

Short-term impacts associated with instability of onsite soils during grading and excavation may occur at the Tenth and Market and Seventh and Mission Alternative sites. In addition, the sites may require dewatering during construction and excavation. These impacts are considered potentially significant, but mitigable through compliance with appropriate policies, standards and Best Management Techniques. Long-term impacts related to geology and landform would be less than significant. The potential for impacts from geologic conditions at both alternative sites is comparable.

Vegetation and Wildlife

No rare, threatened and/or endangered vegetation or wildlife species are known to occur on any of the alternative sites evaluated. Impacts to vegetation and wildlife are considered less than significant. The potential for impacts to vegetation and wildlife at both alternative sites is comparable.

Drainage

Short-term, long-term and cumulative impacts related to flooding and drainage at any of the alternative sites are considered less than significant.

	Geology/Landform	Vegetation and Wildlife	Drainage	Air Quality	Noise	Natural or Depletable Resources	Land Use Consistency	Socioeconomics & Real Estate Market	Aesthetic/Visual Resources	Historic Resources	Public Utilities & Public Services	Transportation and Circulation	Hazardous Substances	Wind	Archaeological Resources	Shadow
Tenth and Market Alternative																
Short-Term	SM	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	SM	LS	SM	LS
Long-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	SU	LS	LS
Cumulative	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Seventh and Mission Alternative																
Short-Term	SM	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	SM	LS	SM	LS
Long-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	SU*	LS	LS
Cumulative	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Purchase Alternative																
Short-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Long-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Cumulative	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Lease Alternative																
Short-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Long-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Cumulative	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
No Action Alternative																
Short-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Long-Term	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
Cumulative	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS

* NOTE: One option tested for Seventh and Mission did not result in wind hazard exceedances.

[B] Beneficial ***Impacts which improve existing conditions.*** A beneficial impact is a consequence brought about by the project which will improve or have a positive effect on the environment.

[SU] Significant unavoidable adverse ***impacts which cannot be mitigated.*** A significant unavoidable impact is a problem for which a solution has not been formulated due either to the limits of technical and/or scientific knowledge or infeasibility from a technical, economic and/or social policy reasons.

[SM] Significant adverse environmental ***impacts that can be feasibly mitigated or avoided.*** In these cases, the consequences of a project are considered sufficiently serious that some form of mitigation planning is needed. These mitigations can involve modifications to the project, changing the project design to avoid conflicts with environmental values, or performing data collection procedures and other mitigation prior to construction (e.g., archaeological data recovery programs).

[LS] Adverse project ***impacts found to be less than significant.*** Less-than-significant impacts describe the consequences of a project that are not sufficiently disruptive to require mitigation measures. Minor changes in the environment that have no serious consequences on the abundance or diversity of plant or animal life, for example, are classified as adverse but less than significant.

FIGURE S-2
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Air Quality

Short-term emissions associated with demolition and excavation activities at the Tenth and Market or Seventh and Mission Streets would be less than significant. Long term and cumulative impacts of the project are considered less than significant. The potential for impacts to air quality at both alternative sites is comparable.

Noise

Project implementation at the Tenth and Market or Seventh and Mission Alternative would result in short-term noise and vibration impacts during construction. These impacts are less than significant. Similarly, long-term noise impacts associated with electrical and mechanical equipment, loading docks and operation of the building would not create significant noise impacts. Cumulative noise impacts are also less than significant. The potential for impacts from noise at both alternative sites is comparable.

Natural or Depletable Resources

Project implementation would not significantly impact resource supplies necessary for construction in the short-term or the long-term rate at which mineral, aggregate, natural gas and petroleum resources are consumed. Therefore, impacts to natural and depletable resources are less than significant. The potential for impacts to natural or depletable resources at both alternative sites is comparable.

Land Use Consistency

Both the Tenth and Market and Seventh and Mission Alternatives would be generally consistent with applicable goals and policies contained in San Francisco planning documents. The Purchase Alternative and Lease Alternative would also be generally consistent with applicable San Francisco planning documents. However, the Lease Alternative would not respond to the Civic Center Plan's Objective 2, Policy 4, which states:

> *Encourage administration-oriented governmental functions (executive, legislative and judicial) to locate in new consolidated facilities rather than being dispersed throughout the adjacent area in leased or rented quarters.*

Socioeconomics and Real Estate Market

Development of the project on the Tenth and Market Alternative would not substantially impact housing supply or demand. Employment opportunities would be created during construction and federal jobs would be preserved in the City. In addition, policies related to the retention of business and government functions within the City of San Francisco would be implemented. These are considered beneficial economic impacts. Office space vacancy rates in downtown San

Francisco would not be substantially affected by the new federal building. Therefore, impacts to the local commercial real estate market would be less than significant.

On the site, the project would displace several commercial and retail land uses. This impact would be mitigated to less than significant through relocation assistance.

Implementation of the federal building at the Seventh and Mission alternative site would alter the socioeconomic characteristics of the immediate neighborhood but is anticipated to have generally beneficial impacts on the area. Increased demand for higher end services may indirectly pressure some residential hotel activities present in the area to convert to other uses, but because residential hotels are protected by San Francisco ordinances, the effect would be limited. The overall socioeconomic impact will be beneficial.

The Purchase Alternative would not have a discernable effect on Bay Area population or housing or affect the office space vacancy rates in the downtown San Francisco Area. Therefore, impacts to population, housing and vacancy rates are less than significant. The preservation of Federal jobs within the City of San Francisco is considered to be a beneficial impact of the Purchase Alternative. Similarly, this alternative would help implement City of San Francisco polices related to the retention of business and attraction of government functions to the City. This is also considered a beneficial impact.

Socioeconomic impacts associated with the Lease Alternative would be similar to those described under the Purchase Alternative and are generally less than significant or beneficial.

Aesthetic/Visual Resources

Short-term visual impacts associated with construction for both the Tenth and Market and Seventh and Mission Alternatives would be noticeable in surrounding areas. Due to the temporary nature of these visual nuisances, this impact is considered less than significant. The Tenth and Market Alternative would not result in major changes in the established development pattern as there are existing developments in the immediate area of similar size and scale. Therefore, the aesthetic impacts of this alternative are considered less than significant.

The Seventh and Mission Alternative is within a subarea of the greater Civic Center. The scale of the building is within that contemplated under various planning documents and planning code requirements designed to protect the greater Civic Center Area. Therefore, the impact on aesthetic and visual resources environment of the Civic Center area would be less than significant. The Purchase Alternative and Lease Alternative would not involve any new impacts to aesthetics or visual resources.

Historic Resources

Implementation of the proposed Federal Building at the Tenth and Market Alternative or the Seventh and Mission Alternative would generally conform to City guidelines, policies and regulations. Impacts would be less than significant for the Tenth and Market Alternative. There are more historic resources in the Seventh and Mission alternative vicinity. Therefore, there is a greater potential for impacts to these resources. At Seventh and Mission Street, an incompatible design could possibly result in an adverse effect on the integrity of the setting for properties listed on, or determined eligible for listing on, the NRHP. These impacts would be less than significant with design of a compatible new building. The potential for impacts to historic resources at the alternative sites is different.

Public Utilities and Public Services

Impacts to electricity, natural gas, solid waste, water supply, and wastewater are less than significant for all of the alternatives. Impacts to police protection are considered less than significant. Upgrading infrastructure to supply adequate fire flow rates would keep fire protection impacts for the Tenth and Market and Seventh and Mission alternatives less than significant.

Transportation and Circulation

During construction, additional vehicle trips would be generated in the proximity of the Tenth and Market and Seventh and Mission Alternative sites. Because the increase in traffic volume is short-term, this impact is considered less than significant.

The Level of Service (LOS) at the intersections studied for the Tenth and Market Alternative would not be reduced. Therefore, this long term impact is less than significant. Parking demand could be met by nearby parking garages. Therefore, this impact is considered less than significant. Pedestrian and bicycle traffic would increase within areas surrounding the Tenth and Market site and would be the greatest during the PM peak hour. These impacts are considered less than significant. Truck deliveries would be less than significant with the creation of off-street spaces. Distribution of vehicular traffic onto Tenth Street may result in localized circulation impacts to both traffic on Tenth Street and traffic entering and exiting the site, but these impacts are considered less than significant. Cumulative 2010 traffic volumes for the Tenth and Market Alternative would not reduce the local traffic flows for any of the intersections studied. All intersections would operate at LOS E or above. Traffic volumes could be further reduced, however, through implementation of transportation program measures. Transit impacts for the year 2010 for the Tenth and Market Alternative will increase PM peak hour outbound demand by less than one percent. This is considered a less than significant impact.

Short-term impacts for the Seventh and Mission Alternative would be identical to those of the Tenth and Market Alternative. Trip generation characteristics of the Seventh and Mission

alterative were assumed to be identical to those of the Tenth and Market site. The addition of project traffic would not change any existing LOS. Cumulative 2010 growth projection traffic for the Seventh and Mission Alternative would result in two intersections operating at LOS F and one operating at LOS D (see Section 3.12 for an explanation of these terms), but these levels of service are expected to occur with or without the project.

Hazardous Substances

Construction at the Tenth and Market and Seventh and Mission Alternatives would require the demolition or renovation of structures which could contain asbestos, lead pipes, or lead based paint. Contaminated soil or groundwater could be encountered. Exposure of construction workers and others to such hazards is considered to be a short-term, potentially significant impact, but this impact could be reduced to less than significant through implementation of appropriate remediation activities including the use of health and safety precautions.

Ground water contamination may be present beneath the Seventh and Mission Alternative. Dewatering of potentially contaminated groundwater during excavation is considered a potentially significant impact, which could be mitigated by remediation, including health and safety precautions. Long term impacts at both sites are less than significant.

Wind

Wind impacts were assessed in terms of speed and duration for both the City comfort criterion for pedestrian areas (11 mph winds) and the hazard criteria (26 mph). Multiple test points to measure wind speed were selected surrounding the Tenth and Market and Seventh and Mission Alternative sites. Eleven building options were analyzed for the Tenth and Market Alternative and two were examined for the Seventh and Mission Alternative.

At the Tenth and Market Alternative, significant unavoidable impacts would occur as a result of wind speeds exceeding the 26 mph hazard criterion for more than one hour per year at several test point locations for the best case of the tested building options. Although the overall hours of exceedences would be reduced, approximately 3,000 persons would be introduced to severe wind conditions. Impacts are considered significant because additional people would be introduced to this already very windy area, and because existing exceedances would continue. These impacts are significant and unavoidable.

For one of the two building options at the Seventh and Mission Alternative, significant unavoidable impacts would occur as a result of wind speeds at several test point locations exceeding the 26 mph criterion for more than one hour. The other building option resulted in no hazard exceedences. The impacts from wind are considerably more severe at the Tenth and Market site than at the Seventh and Mission site.

Archaeological Resources

Short-term construction activities at the Tenth and Market Alternative or the Seventh and Mission Alternative could damage or disturb any onsite archaeological resources. This impact is considered potentially significant but could be mitigated through a program of archaeological testing and evaluation. Long-term impacts associated with operation of the building would not affect cultural resources and are considered less than significant.

Shadow

Shadows created by implementation of the proposed federal building at the Tenth and Market Alternative would not affect the War Memorial open space or the Civic Center Plaza, both protected by the San Francisco sunlight ordinance (Section 295, Planning Code), or the UN Plaza and Fulton Street Mall. Similarly for the Seventh and Mission Alternative, the Civic Center Plaza, Mini Langton Park, and the park at Sixth and Folsom Street, all protected by the ordinance, would not be affected. Shadow from the Seventh and Mission site would affect the UN Plaza and Fulton Street in the mornings in late Fall and early Winter. However, because protected properties would not be affected, shadow impacts for both the Tenth and Market Alternative and the Seventh and Mission Alternative were considered less than significant.

LIST OF FEDERAL, STATE, AND LOCAL AGENCIES FROM WHICH COMMENTS ARE REQUESTED

Refer to Section 11.0.

DATE DRAFT EIS/EIR MADE AVAILABLE TO ENVIRONMENTAL PROTECTION AGENCY AND THE PUBLIC

April 12, 1996

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed project is to 1) reduce the amount of leased space utilized by the federal government; 2) consolidate offices of several federal executive agencies located in San Francisco into a single building in or near the Central Business District (CBD), and 3) house law enforcement agencies not suitable as lease tenants. The needs are more fully described in Sections 1.2 and 1.3, below. The United States General Services Administration (GSA) proposes to address these needs by constructing a Federal Building which will have approximately 475,000 occupiable square feet (OSF), or approximately 675,000 gross square feet (GSF), of space. Furthermore, the development of the project would include the construction of approximately 114 interior and 47 surface parking spaces. The proposed project would be sited in the greater Civic Center area, near the Central Business District (CBD) of the City of San Francisco, California. Under two of the alternatives considered in this document, GSA would acquire the site for the project from the San Francisco Redevelopment Agency (SFRA) which would, with the Board of Supervisors, adopt a Redevelopment Plan for the proposed site, acquire the site from the current landowner, and reconvey the site to GSA. As currently proposed, the building will be completed in 2001.

1.1.1 Agencies Involved and Number of Participants/Occupants

Upon project completion, the proposed structure would provide the federal government with approximately 475,000 OSF, or approximately 675,000 GSF, of office space for various federal agencies. Some of the agencies that have been currently proposed to occupy the building are Alcohol, Tobacco and Firearms, Customs, Secret Service, Small Business Administration, Internal Revenue Service, and General Accounting Office. The facility could house up to 3,000 employees, although the proposed population of the current housing plan is 2,748. A complete list of agencies proposed for occupancy of the Federal Building is shown in Table 2-3 in Section 2.0.

The proposed federal housing plan may differ from the present list of occupants of the federal building by the time it is complete. The current housing plan (October 23, 1995) represents the federal government's present intent for occupancy of the building. If the housing plan is modified to the extent that environmental impacts may differ from those discussed in this EIS/EIR, subsequent environmental documentation may be prepared.

1.1.2 Lead Agencies, Affected Agencies, and Authorizing Actions

This project involves discretionary actions by GSA, the SFRA and the City and County of San Francisco ("City" or "San Francisco") Planning Commission. Accordingly, this project is subject to both the federal National Environmental Policy Act (NEPA) and the California

Environmental Quality Act (CEQA). GSA is the lead agency for the purposes of NEPA and the SFRA Commission and the San Francisco Planning Department are co-lead agencies for the purposes of CEQA. A "lead agency" is the agency with principal responsibility for carrying out or approving a project and preparing the necessary environmental documentation. The following paragraphs describe the review process in more detail and discuss the various authorizing actions that may be required.

National Environmental Policy Act Relevance to Federal Regulation and Executive Orders

The General Services Administration (GSA), Pacific Rim Region 9, is the "lead agency" with respect to fulfilling the NEPA requirements for the proposed project. As defined by NEPA, the "lead agency" is the federal agency that has the primary responsibility for preparing this Environmental Impact Statement (EIS).

Many federal agencies are required to comply with procedures mandated by statutes other than NEPA. The Council on Environmental Quality (CEQ) states that when an agency must comply with the environmental procedures of other statutes, compliance with these regulations should be incorporated into the NEPA process (40 Code of Federal Regulations 1502.25). In other words, if an agency must comply with separate legislation (e.g. the Endangered Species Act (ESA), the Pollution Prevention Act, the Community Right to Know Act, etc.), regulations, and/or Executive Orders (EOs), the NEPA process may be utilized to fulfill these needs and requirements. Although the procedures may be integrated, the overall statutory requirements remain independent.

GSA has adopted Order PBS P 1095.4B, *Preparation of Environmental Assessments and Environmental Impact Statements*, which requires the inclusion of applicable environmental statutes into the NEPA planning process. These laws, regulations, and EOs are identified and discussed within the appropriate EIS issue areas of this document. For example, the Endangered Species Act is identified and its applicability to the project is discussed within Section 3.2, Vegetation and Wildlife.

Authorizing actions by GSA for the proposed project following completion of the environmental review process would include issuance of a Record of Decision approving the project, acquisition or lease of the project site, and, if a purchase alternative is selected, authorization of that action. Project construction (which will be completed through a lease purchase action) has already been authorized by unilateral Congressional action.

The specific authorizing actions required for each alternative are set forth in the description of alternatives in Section 2.1.

California Environmental Quality Act Relevance to the Proposed Action

Whereas the NEPA directs environmental policy on the national or federal level, CEQA directs environmental policy on the state level. Like NEPA, CEQA requires decision-makers to document and consider the environmental implications of their actions. CEQA applies to governmental agencies at all levels including state, regional and local.

Environmental review documents for redevelopment projects in San Francisco are jointly certified by the SFRA Commission and City Planning Commission.

If a site to be acquired by SFRA is the selected alternative, authorizing actions by SFRA and the city following completion of the environmental review process under CEQA would include certification of the final environmental Impact Report with the City Planning Commission and approval of the Redevelopment Plan for the site and approval of site acquisition and reconveyance to GSA. The Redevelopment Plan would be approved by the SFRA Commission, reviewed for conformity with the San Francisco Master Plan by the City Planning Commission, and adopted by the Board of Supervisors. Depending on the alternative selected and circumstances at the time of project approval, the Board of Supervisors, SFRA, and the Planning Commission may take other actions in connection with the project (e.g., issuance of bonds to finance acquisition, vacating the Jessie Street stub at Tenth and Market). If any actions in connection with the project are found to be not in conformance with the San Francisco Master Plan, conforming amendments to the Master Plan may be proposed to the Board of Supervisors following Planning Commission review.

Other Federal and Local Agencies

In addition to GSA and the City of San Francisco, several federal, state, regional, and local agencies will utilize the information contained within this EIS/EIR to grant discretionary approvals and/or permits for the proposed project. In several cases, additional information could be required by these agencies to supplement the information contained within this document.

Section 309 of the Clean Air Act (CAA) authorizes the Environmental Protection Agency (EPA) to review and comment on any matter subject to NEPA and refer to the CEQ any matter determined to be unsatisfactory from the standpoint of public health, welfare, or environmental quality. Furthermore, EPA's authority to comment on Draft EISs derives from its role as an agency with jurisdiction by law and special expertise concerning the environmental impacts associated with most federal proposals.

The proposed project sites are located in the greater Civic Center. The Civic Center includes two National Register districts. Section 106 of the National Historic Preservation Act (NHPA) requires consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation for any federal undertaking. In addition, Section 106 requires consideration of any potential impacts to subsurface archaeological resources.

All federal projects are subject to the requirement for consultation with the United States Fish and Wildlife Service.

The proposed action and alternatives are situated within the San Francisco Bay Area Air Basin, which is under Bay Area Air Quality Management District (BAAQMD) jurisdiction. The BAAQMD has the responsibility for improving the air quality within the areas under its jurisdiction to comply with the CAA of 1988 and the Federal CAA of 1970 as amended in 1990. BAAQMD would be required to make a consistency determination for this project under the CAA.

1.2 NEED FOR THE PROPOSED ACTION

Although several Federal law enforcement agencies are currently housed in commercially leased space, GSA has found lessors to be increasingly hesitant to offer space in their commercial office buildings to functions which they view as incompatible with the office functions of their other tenants. Security needs are not easily met in a standard public office building. Furthermore, GSA is finding it difficult to obtain the amount of secured nearby parking that is required to accommodate law enforcement vehicles needed for rapid response. It is apparent that law enforcement agencies are most appropriately located in a federally-owned facility where these needs can more easily be accommodated in the initial design of the building. GSA needs additional Federal space to meet these requirements because all other Federal space in the City is fully programmed.

In San Francisco, approximately half of the space occupied by Federal agencies is leased at various locations throughout the City's Central Business District and in the greater Civic Center area. Several agencies have offices in more than one building. Cost savings can be achieved by consolidating offices, thereby increasing efficiency of operations and eliminating redundant activities. By adding federally-owned space, GSA can promote the consolidation of Federal offices and reduce reliance on the rental market to provide blocks of space of sufficient size to accomplish these consolidations. This is especially important in a real estate market in which large blocks of contiguous office space are in short supply.

Federal regulations require that in meeting space needs in urban areas "First consideration shall be given to a centralized business area." [40 CFR 101-17.002]. In addition, "Site selection and space assignment shall take into account: (1) The management needs for consolidation of agencies or activities in common or adjacent space to improve management and administration and effect economies" [40 CFR 101.17002]. The proposed project is designed to achieve these requirements. It would also meet the City's objective of "promoting the efficiency and convenience of the civic center as a cohesive area for the administrative functions of City, State and Federal government" (City of San Francisco, Civic Center Plan 1988, Objective 2).

1.3 HISTORY AND BACKGROUND OF PROJECT

The project for construction of a new Federal Building in San Francisco was initiated by congressional authorization. Public Law 100-202 required the Administrator of General Services to acquire a 430,000 occupiable square foot Federal office building through a lease purchase agreement. The proposed building was to be constructed on a site to be donated by the City of San Francisco. Subsequently, Public Law 102-393 increased the size of the proposed building to 475,000 occupiable square feet. Pursuant to the congressional legislation, GSA and the City have examined a number of potential sites; however, the two construction site alternatives assessed in this document appeared to meet the Federal needs most effectively.

1.3.1 Project Area Profile

The project is located in the City and County of San Francisco. For federal planning purposes, GSA uses a regional federal commute area which includes five counties (Alameda, Contra Costa, Marin, San Francisco, San Mateo). This differs from the nine county planning area used by the Association of Bay Area Governments (ABAG).

The population of San Francisco in 1993 was approximately 752,000[1]. The population of the City and County grew by 7 percent over the ten year period from 1980 to 1990. The population of San Francisco is expected to reach approximately 819,000 by the year 2010 (ABAG 1992).

1.3.2 Federal Space Situation

The federal government agencies are currently housed in numerous buildings throughout the City of San Francisco and other surrounding Bay Area cities. Table 1-1 lists an inventory of the largest GSA leased spaces in San Francisco while Table 1-2 shows the inventory of government owned space in San Francisco.

Total leaseholdings in San Francisco approach 1.81 million square feet, or 49 percent of the federal inventory (GSA, 1994). The federal government's goal is to achieve at least 75 percent owned ratio of space in the City. By 2001, with the completion of all projects now underway or planned, and with the development of a new federal office building, the federally owned portion of the inventory would increase to 75 percent in the City of San Francisco.

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[1] The City of San Francisco believes that the population figures provided by the Census of 1990 were incorrect. The figures provided here are from the Department of Finance, May, 1994. The differences in population estimates are not great enough to affect the analysis in this report.

Table 1-1. Major Federal Government Leases (100,000 OSF or More)
San Francisco, California

Year Lease Expires	Location	OSF*	Number of Employees	Tenant
June 30, 1996	211 Main Street	148,193	553	Various Federal Executive Agencies
September 30, 1996	75 Hawthorne Street	105,315	485	Health and Human Services - Office of the Secretary and Health Care Financing
September 30, 2009	75 Hawthorne Street	203,054	1,140	Environmental Protection Agency, and other various federal executive agencies
April 14, 1996	Tishman Building 525 Market Street	205,669	1,136	General Services Administration Regional Office, State Department - Consular Affairs, Social Security Administration - Office of Hearings and Appeals, Merit Systems Protection Board, Federal Maritime Commission, Air Force, Justice Department - Office of the Inspector General-Passport Office
April 19, 2002	Stevenson Place 71 Stevenson St.	133,516	713	Department of Labor
July 31, 2000	Regional Office of the Internal Revenue Service 1650 Mission St.	108,555	616	Regional Office of the Internal Revenue Service

Source: Space Management Division, Building and Assignments Master List as of 9/29/95.

Table 1-2. Inventory of Government-Owned Space San Francisco, California

Year Built	Building, Address, City	OSF/GSF	Number of Employees	Major Tenants
1964	Phillip Burton Federal Building 450 Golden Gate Avenue San Francisco, CA	964,823/ 1,418,170	3,837	Various Federal Executive Agencies and U.S. District Court
1936*	Federal Office Building 50 United Nations Plaza San Francisco, CA	183,654/ 358,910	857	Department of Health and Human Services, Food and Drug Administration, Department of Education
1911*	U.S. Custom House 555 Battery Street San Francisco, CA	86,985/ 128,082	0	Building is currently vacant. Under seismic renovation and rehabilitation.
1945**	U.S. Appraisers Building 630 Sansome Street San Francisco, CA	304,046/ 477,158	1,313	U.S. Forest Service, Immigration and Naturalization Service, U.S. Army Corps of Engineers - South Pacific Division and the U.S. Customs Service, Various Others
1905*	U.S. Court of Appeals, Ninth Circuit Seventh and Mission San Francisco, CA	191,372/ 327,310	0	Building is currently vacant. Under seismic renovation and rehabilitation.
N/A[2]	U.S. Postal Service 390 Main Street San Francisco, CA	101,061/ N/A[2]	290	Treasury Department, Justice Department - Drug Enforcement Agency and GSA - Federal Supply Service
1874*	Old Mint 88 Fifth Street San Francisco, CA	60,900/ 100,711	N/A***	U.S. Department of Treasury

Sources: Space Management Division, Building and Assignments Master List as of 9/29/95.

Notes: N/A Information not available
* Denotes listing on the National Register of Historic Places
** Denotes eligibility for listing on the National Register of Historic Places
*** Building is currently being vacated.

[2] Although federally owned, it is operated by the Postal Service. Because of its special nature, Post Office space is not counted towards federal office space inventory.

1.3.3 Scoping Process

Purpose of the Scoping Process

The CEQ regulations (40 Code of Federal Regulations 1500-1508) that implement the NEPA direct federal agencies to engage in a public scoping process. Public participation when preparing an EIS is required to ensure appropriate communications with affected and interested parties. The extent of public participation is based on the magnitude of environmental consequences associated with the proposed actions, anticipated public interest, impact on national security, and project classification.

Early public consultation is also specified in Section 15083 of the *CEQA Guidelines*. Consultation with the public early in the process serves to solve many potential problems that may arise in more serious forms later in the review process. Public scoping is necessary when preparing a joint EIS/EIR with a federal agency.

The primary purpose of the scoping process is to determine the contents of the EIS/EIR so that preparation of the document can be effectively managed. Scoping is intended to ensure that issues of public concern are identified early and properly studied, that issues of little significance do not consume time and effort, that the Draft EIS/EIR (DEIS/EIR) is thorough and balanced, and that delays occasioned by an inadequate DEIS/EIR are avoided. The scoping process should:

- Identify the public and agency concerns;
- Clearly define the environmental issues and alternatives to be examined in the EIS/EIR, including the elimination of nonsignificant issues;
- Identify related issues that originate from separate legislation, regulation, or Executive Order (e.g., historic preservation or endangered species concerns); and
- Identify state and local agency requirements that must be addressed.

An effective scoping process can help reduce unnecessary paperwork and time delays in preparing and processing the EIS/EIR by clearly identifying all relevant procedural requirements. In addition, *CEQA Guidelines* Section 15083 specifies that scoping is an effective way to bring interested parties (federal, state, local, proponents of the action) together and resolve concerns.

Results of the Scoping Process

The preliminary scoping process conducted for this EIS/EIR began with discussions between GSA and the SFRA concerning the scope of the EIS/EIR and the potentially significant issues. A Notice of Intent (NOI) announcing the formal scoping meeting and soliciting comments from

public agencies and interested parties was published in the United States Federal Register (May 25, 1993), and local news media including the San Francisco Independent (May 25, 1993) (refer to Appendix A for noticing information). The public and agency scoping meeting was held at the SFRA, 770 Golden Gate Avenue, San Francisco on Thursday, May 27, 1993. Verbal comments were received from two persons during the scoping meeting [Reported by Freda A. Williams, SFRA]. Extensive oral comments were received from Sue Hestor, representing Citizens for Representative Government. These concerned building design, wind and shadow impacts, business displacement, and the impact on the commercial real estate market. Eila Arbuckle with the San Francisco Mayor's Office asked several questions regarding the possible occupants of the new building. No written comments were received by GSA prior to the meeting or from individuals unable to attend the scoping meeting. A copy of noticing information and a transcript of the proceedings of the scoping meeting are contained in Appendix A.

The Tenth and Market Alternative was named as the preferred alternative at the scoping meeting because it was the site which had been identified and offered to GSA by the City, as required under authorizing Congressional legislation. Subsequently, it became obvious that both the Tenth and Market and Seventh and Mission alternatives were capable of meeting Federal requirements. Therefore, there was no need to designate a preferred alterative and none is named in this environmental document.

1.4 ENVIRONMENTAL IMPACT STATEMENT / REPORT CHAPTER OVERVIEW

Section 2.0 of this document provides a description of the alternatives considered for analysis as required under NEPA and CEQA. Section 3.0, Affected Environment, addresses the existing regional and site-specific conditions or setting for each issue area. The assessment of environmental impacts is addressed within Section 4.0, Environmental Consequences, and has been divided into two parts: impact analysis and mitigation measures. The impact analysis identifies significance thresholds and identifies the effects that would occur from the alternatives on a short-term, long-term and cumulative basis with respect to the thresholds. The mitigation measures section identifies actions that would fully or partially alleviate impacts. The mitigation measures set forth are presented for consideration only. The SFRA and the City and County of San Francisco will commit to mitigation measures in the Redevelopment Plan and/or other authorizing actions approved in connection with the project. GSA will formally commit to mitigation measures in the Record of Decision.

The remaining sections of the DEIS/EIR discuss growth-inducing environmental impacts, significant irreversible environmental impacts, the relationship between local short-term use of the environment and the maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitment of resources. A listing of acronyms, a glossary of important terms, and an index are included at the back of this document.

2.0 ALTERNATIVES

This chapter of the EIS/EIR describes the proposed action and alternatives that could meet the objectives of the project. In addition, this chapter presents a summary of the environmental impacts of the proposed action and other alternatives in a comparative form, defining the issues and providing a basis for choice among the alternatives by decision-makers and the public.

2.1 DESCRIPTION OF THE ALTERNATIVES

The United States General Services Administration (GSA), the City of San Francisco, and the San Francisco Redevelopment Agency (SFRA) in accordance with the National Environmental Policy Act (NEPA) Section 1502.14 and the California Environmental Quality Act (CEQA) are considering a range of alternative actions that could feasibly attain the basic objectives of the proposed project. NEPA and CEQA do not require an agency to consider extreme possibilities, only "reasonable alternatives" that are thorough enough to allow decision-makers to arrive at informed conclusions.

Five alternatives have been identified for analysis. They include the Tenth and Market Alternative (development of a site at Tenth and Market), an alternative location (development of a site at Seventh and Mission), purchase of an existing building, leasing existing space, and the No Action Alternative. The Tenth and Market Alternative and the Seventh and Mission Alternative are outside the Civic Center Core and within the Central Business District (CBD). The sites are within the study area for the Civic Center Area Plan revision. Changes to the Civic Center Area Plan under consideration include expansion of the area boundaries to encompass the Mid-Market Street Planning Area, and the South Van Ness Planning Area, as well as parts of Hayes Valley and North of Market. This larger, greater Civic Center area is generally bounded by Turk Street, Mint Street (near Fifth Street), Mission Street, Twelfth Street, Folsom Street, the Central Freeway, and Octavia and Gough Streets.

The Tenth and Market Alternative, Seventh and Mission Alternative, Purchase Alternative, Lease Alternative and No Action Alternative, as well as alternatives considered but rejected, are described in this section.

2.1.1 Tenth and Market Alternative

Project Location and Land Use

The site is an approximately 95,000-square-foot parcel comprising half of the block bounded by Tenth Street to the northeast, Market Street to the northwest, Eleventh Street to the southwest and Mission Street to the southeast. The northwesterly portion of the site fronts on Market Street, the northeasterly portion faces Tenth Street and the southeasterly border of the site abuts Mission Street. The southwestern site boundary is a line which roughly bisects the block (see

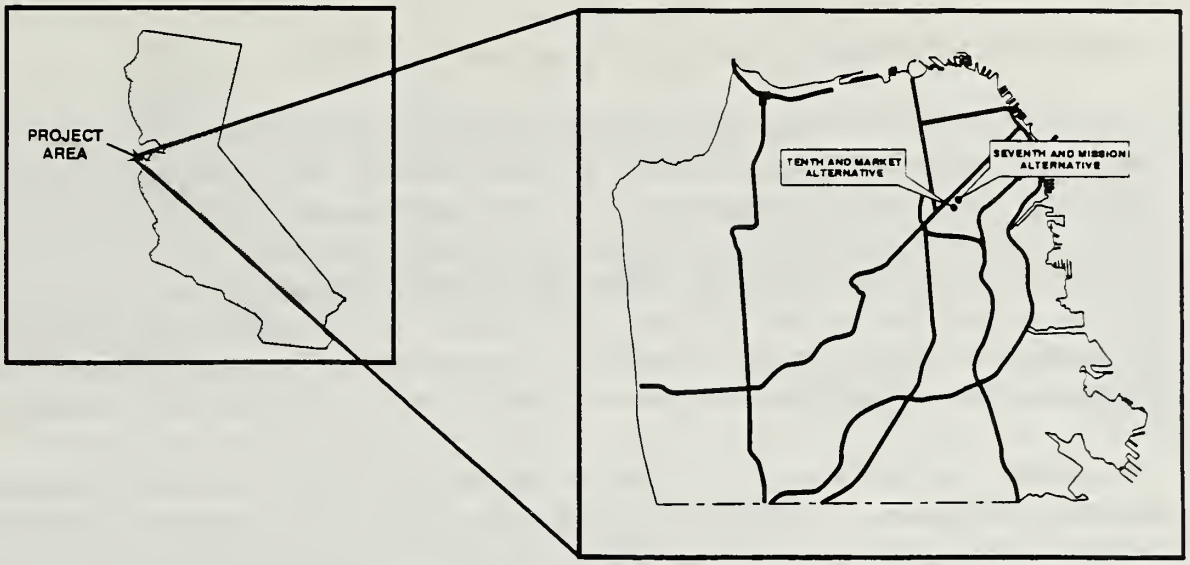
Figure 2-1). Jessie Street presently enters into a portion of the site and serves as side or rear entrance to several of the existing buildings on the site. Jessie Street would be abandoned to accommodate the project. (Note: streets in the South of Market area run generally northeast-southwest and northwest-southeast. For ease of reading, northwest-southeast streets such as Tenth are referred to as north-south and northeast-southwest streets such as Market Street are referred to as east-west.)

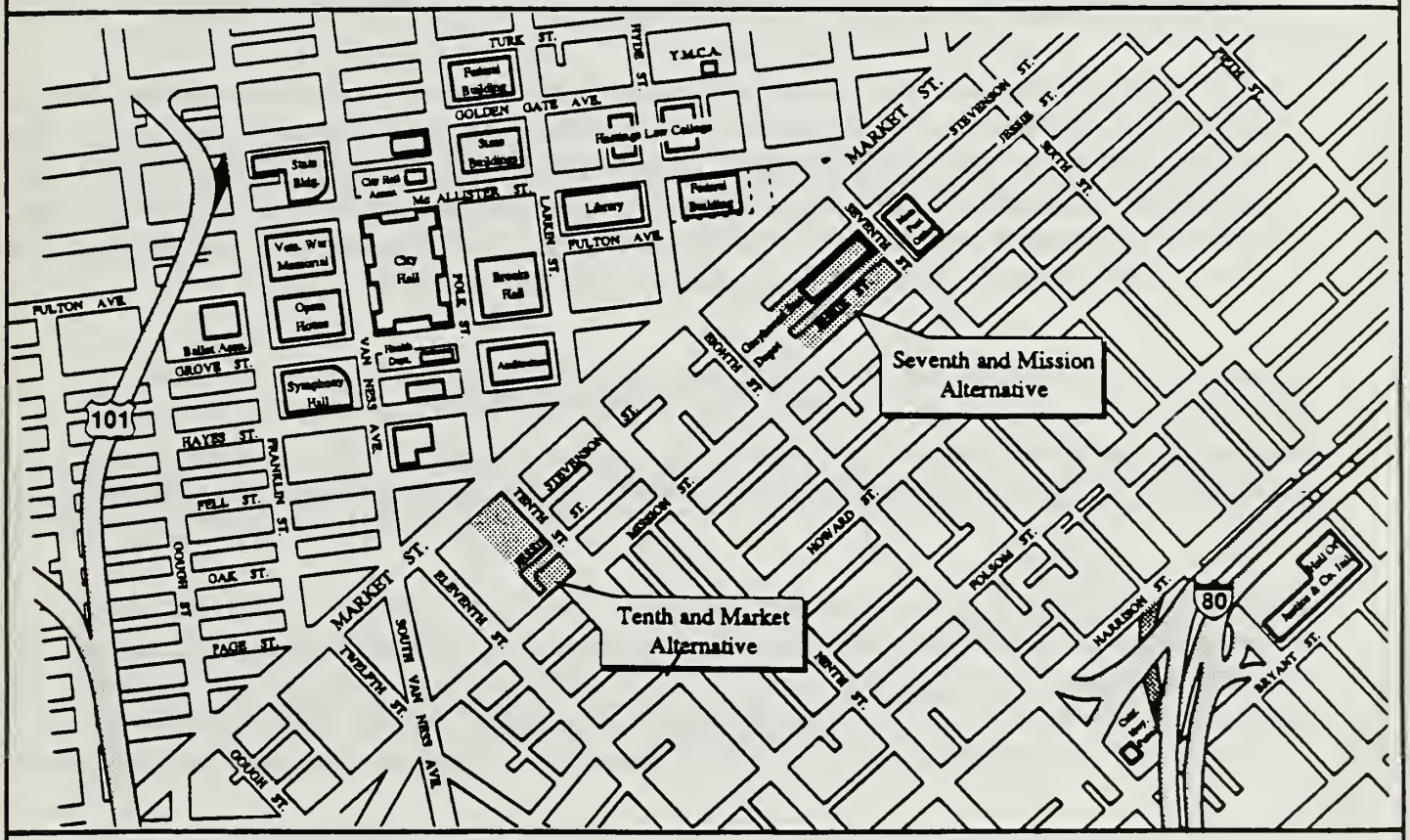
The northern portion of the project site is currently covered by six buildings ranging from two to four stories. Buildings fronting Market Street contain retail and service oriented businesses. The buildings at mid-block fronting Tenth Street are mostly vacant. One private non-profit agency, the Independent Living Resource Center is located onsite and would be offered relocation assistance when it chooses to move (SFRA, June 6, 1995), if this alternative is chosen. A former car wash and pump island canopy are located on the corner bounded by Mission and Tenth Streets. The Bank of America Data Center is located immediately to the west of the project site and occupies the entire other half of the block (see Figure 2-1).

Local Authorizing Actions

The Tenth and Market Alternative site is a proposed San Francisco redevelopment area. Currently, the site is owned by Bank of America. It would be conveyed to the SFRA for reconveyance to GSA. SFRA's acquisition of the site and subsequent reconveyance to GSA would be authorized by a Redevelopment Plan adopted by the Board of Supervisors upon the recommendation of the SFRA Commission and taking into consideration a conformity determination by the City Planning Commission. The Redevelopment Plan would apply to all property within the Tenth and Market Alternative site area as indicated in Figures 2-1 and 3.7-1. Depending on circumstances at the time of project approval, the Board of Supervisors, SFRA, and the City Planning Commission may take other actions in connection with the project (e.g., issuance of bonds to finance acquisition, vacating some portions of adjoining streets rights-of-way, and adoption of conforming Master Plan amendments). In addition to approval of a Redevelopment Plan, several improvements to the property would be required before development. These include demolition of existing two and four story buildings located on the northern portion of the site. SFRA would be required to provide relocation assistance to any tenants remaining in the buildings to be demolished. Demolition would require permits from the City Bureau of Building Inspection (BBI) issued to Bank of America. The property would be conveyed free of hazardous materials in excess of standards set by federal and state regulations. Tank removals would require permits from BBI. This alternative would also require the Board of Supervisors to vacate the public right-of-way on Jessie Street.

The Tenth and Market Redevelopment Project Area is a newly designated redevelopment area. (The SFRA must determine that the proposed redevelopment will remove existing conditions of blight, including deteriorating structures, incompatible mixtures of land uses, under-utilization of land and contaminated soil.)





BASE MAP SOURCE: California State Automotive Association

(NOT TO SCALE)

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

PROJECT SITES LOCATION MAP

Figure 2-1

Project Characteristics

In order to accommodate the need for increased federally owned office space in San Francisco, the GSA is proposing the construction of a Federal Building with approximately 675,000 gross square feet (GSF) and approximately 475,000 occupiable square feet (OSF). Since the building would be shared by several Federal tenants, approximately 20,000 square feet are reserved for uses that would serve all occupants. These uses might include food service, conference/training rooms, exercise and day care facilities (GSA, 1993). Another 6,000 square feet are reserved for cooperative uses intended to serve the community and enhance pedestrian activities. Examples of possible uses include retail space, educational, recreational and/or cultural facilities.

The project would include up to 114 interior parking spaces and 47 surface parking spaces for a total of 161 spaces. The interior parking is intended to fulfill specialized requirements of certain federal agencies, such as the Secret Service, who need to maintain fleet vehicles in a secure location. Parking spaces could be below grade and interior to the building, or onsite and concealed to meet City requirements (GSA, 1994).

Mid-block vehicle access is discouraged along Market Street by the San Francisco Master Plan. Therefore, vehicle access is likely to be from either Mission Street or Tenth Street. The structure would be 22 floors in its largest design configuration. Estimated ground floor height would be 20 feet and a typical floor to floor height (above the ground floor) would be 14 feet, or about 315 feet in total height for the largest building configuration (GSA, 1993). Statistics for a possible configuration of the proposed structure are shown in Table 2-1.

Table 2-1. Building Statistics

Floor	Height	Number	Total Feet
Ground Floor	20'-0"	1	20
Floors 2 - 7	12'-6"	6	75
Floors 8 - 22	13'-4"	15	200
Top Floor (Mechanical)	20'-0"	-	20
	Totals	**22**	**315**
Average OSF per Floor: 21,591			

Table 2-2 summarizes the square footage planned for office and parking. Based on the current occupancy plan (see Table 2-3), employee population is projected to reach 2,740 in 1999, the expected date of occupancy. However, the building could accommodate up to 3,000 employees. The tenants would be primarily federal executive agencies (GSA, 1993). Executive agencies are associated with the executive branch of the federal government as opposed to the legislative or judicial branches.

Table 2-2. Summary of Square Footage

Office - (Efficiency = 75%[a])	
Occupiable Area[b]	475,000
Building Support Area[c]	158,333
Gross Area[d]	633,333
Parking - (Efficiency = 80%) 161 spaces	
Occupiable Area[b]	32,200
Building Support Area[c]	8,050
Gross Area[d]	40,250
Total Gross	**673,585**

Source: GSA, 1993

[a] **Efficiency** refers to the ratio of occupiable square footage to gross square footage. The desired ratio of OSF to gross square footage is 70 percent to 80 percent (G.S.A. June 1, 1993, p. 3-15).

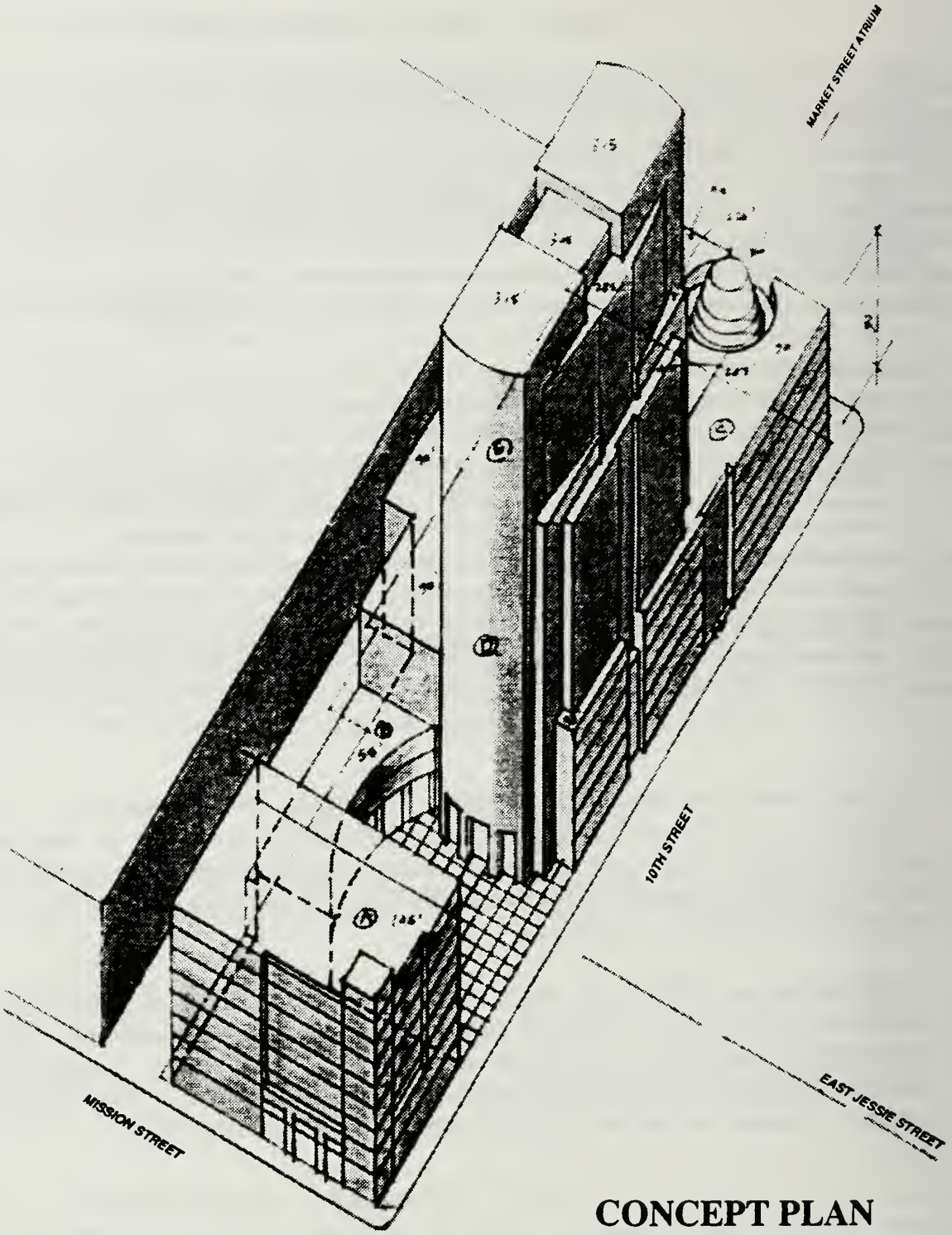
[b] **Occupiable Area**: That portion of the gross area which is available for use by an occupant's personnel or furnishings, including space which is available jointly to the various occupants of the building, such as auditoriums, health units, and snack bars. Occupiable area does not include that space in the building which is devoted to its operations and maintenance, including craft ships, gear rooms, and building supply, storage and issue rooms.

[c] **Building Support Area** includes exterior walls, room for mechanical equipment, maintenance operations, etc.

[d] **Gross Area**: The sum of all floor areas (including all stories or areas which have floor surfaces and a clear standing headroom of 6-1/2 feet or more) including basement (except unexcavated portions), attics, garages, roofed porches, mezzanine, loading platforms, shipping platforms, penthouse, mechanical equipment, floors, lobbies, and corridors. Gross area does not include open courts, light wells, upper drives, ramps, etc., extending beyond the principal exterior walls of the building, or unroofed areas such as cooling towers and unenclosed portions of ground level or intermediate stories.

No design award has been made, therefore no building design specifics are available for inclusion in this document. Several building configurations (a total of 14) were subjected to wind tunnel tests. This testing resulted in a single conceptual design that did not substantially exacerbate existing wind conditions (see Figure 2-2). The characteristics of this configuration is discussed in Section 3.14 and 4.14.

Three options are available for locating the main entrance. One is to orient the entrance on Market Street to conform with the City policy encouraging pedestrian traffic and retail along this thoroughfare. Another is to locate the entrance along Tenth Street. Under this option, a secondary significant entrance might also be included along Market. A third option is to locate a primary entrance on Market with a secondary entrance on Tenth Street.



CONCEPT PLAN

Source: Kaplan McLaughlin Diaz (Modified by Fugro)

SAN FRANCISCO FEDERAL BUILDING
TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 2-2

Project Space Utilization and Employment

Upon completion, the building could house up to 3,000 employees. At the present time, the potential tenant federal agencies are housed in leased or Federally-owned space located throughout the Central Business Area (CBA) of San Francisco.[1]

Table 2-3 shows the proposed occupancy plan for the San Francisco federal building. This list is preliminary and subject to change over the course of the project. However, it does offer an example of the types of agencies that would occupy the building. Most of the federal agencies have a relatively low level of public interaction.

Table 2-3. Proposed Housing Plan
San Francisco Federal Building

Agency	Current Address	Lease Expires	Total Square Feet	Pers.	Parking	
					In	Out
TD/Alcohol, Tobacco and Firearms	211 Main	Jan., 1999	34,827	200	22	22
TD/Customs	1700 Montgomery	Oct., 2000	14,950	100	41	0
TD/Secret Service	345 Spear	Sept., 1999	11,392	50	46	0
Small Business Administration	211 Main	June, 1996	19,151	90	4	0
TD/IRS Appeals	160 Spear	Jan 1996	41,458	215	0	0
HHS/Health Care Finance Admin.	75 Hawthorne	Sept., 1996	29,700	–	1	0
Small Business Administration	71 Stevenson	Dec., 1998	11,821	73	2	0
Social Security Admin. Training	730 Harrison St.	Feb., 1999	9,599	32	4	0
TD/Internal Revenue Service	1650 Mission	July, 2000	42,000	655	0	0
Labor Department	71 Stevenson	April, 2002	126,918	740	22	0
Department of Defense/DLA	71 Stevenson	April, 2002	666	6	0	0
Corps for National Service	211 Main	June, 1996	3,600	20	0	0
Department of Labor/ESA	211 Main	June, 1996	3,000	36	2	0
Peace Corps	211 Main	June, 1996	3,400	21	2	0
MSPB	525 Market	April, 1996	4,000	24	0	0
TD, Office of Investigations	211 Main	June, 1996	3,755	22	0	0
Justice	301 Howard	Feb. 1996	3,883	24	0	0
GAO	301 Howard	Nov. 2000	31,727	155	26	0
CD/ITA	250 Montgomery	June, 1996	5,910	34	1	0
CPSC	600 Harrison	Aug., 1999	4,057	19	5	0
Federal Maritime Comm.	455 Market	Mar., 2000	1,889	7	–	0
Veteran Administration	301 Howard	Dec., 2000	34,841	189	0	0
Joint Use Space	–	–	20,000	0	0	0
Coop-Use	–	–	6,000	0	0	0
Total (Inside parking not included in this total)			472,294	2,740	146	22

[1] The phrase Central Business Area (CBA) refers to an area described by federal regulations that is the preferable location for federal office buildings. The City uses the phrase Central Business District (CBD) to describe the Downtown area, especially the downtown business core. The Central Business District in San Francisco encompasses a core centered around the financial district (roughly bounded by Kearny Street, Washington Street, The Embarcadero, and Folsom Street) together with the Downtown (the City's retail center) and the area south of Market, Mission Bay, South Van Ness, Civic Center, and the Northeast waterfront area. This report will generally use CBD, unless referring to federal regulatory requirements.

Project Construction

The following information lists details about the construction process which are relevant to the environmental review:

- Construction timing (approximate): Demolition of existing buildings is planned for mid-1996. Excavation would begin three to four months after demolition. The project is expected to be complete and ready for occupancy by late 1999.

- Excavation will be necessary for construction of the subterranean parking area, emplacement of underground utilities and any other below-grade structural supports. Approximately 60,000 cubic yards of sand and top soil would be removed during construction. The building's foundation will either be spread footings or pilings. The building will extend one floor below grade. Depth of footings would vary with type but would average four feet in depth. Several caissons would extend below the footings.

- The greatest construction-related impacts would be experienced by traffic and land uses in the immediate vicinity on Tenth Street, Market Street and Mission Street.

- The Bank of America Data Center has indicated that it may be sensitive to the vibrations associated with pile driving. Therefore, GSA has agreed not to drive piles. Instead, a drilled or screwed system of pile foundation would be utilized at the Tenth and Market Alternative. However, vibration measuring equipment would be used at the site and on the sixth and eighth floors of the data center for readings during normal construction activities.

- The length of the total construction period is approximately 2 years (worst case as long as 3 years).

Construction-related impacts are discussed throughout the EIS/EIR. Dust and other similar impacts from excavation and construction are discussed in Sections 3.4 (Air Quality) and 3.5 (Noise).

Area Zoning Requirements

The City's Master Plan describes the area as appropriate for government offices. The site is located in an area described by the Downtown Plan, which is part of the Master Plan. The current Zoning Map for the City and County of San Francisco identifies the site as Downtown General Commercial District (C-3-G). The site is governed by three height and bulk districts from Market Street towards Mission Street. The present zoning allows uses with a city-wide or regional function such as retail, offices, hotels, entertainment clubs, institutions and high-density residential development. Zoning districts surrounding the Tenth and Market Alternative

site include Public District, Neighborhood Commercial District, Commercial Districts and Residential Districts.

It is important to understand in reviewing this document that the U.S. Constitution gives the federal government preemptive power over state and local regulations (U.S. Constitution Article VI, Section 2 [Supremacy Clause] and Article IV Section 3 [Property Clause]). However, while generally immune from land use regulation, the 1988 amendments to the Public Buildings Act of 1959 encourages the federal government to consider local zoning and related regulations in its planning process.

The project will generally conform to height and bulk limitations in the Planning Code. Some exceptions are noted in this report.

A complete discussion of the Master Plan, zoning and other regulatory requirements is contained in Section 3.7, Land Use.

Construction Codes and Standards

GSA has adopted several codes which govern Federal construction throughout the United States and its territories. These codes will apply to this project.

The *National Building Code*, which includes the *National Mechanical Code* and the *National Plumbing Code*, issued by the Building Officials and Code Administrators International (BOCA) has been adopted as the basic building code for Federal facilities.

For egress requirements, the provisions of the National Fire Protection Association (NFPA) Standard 101, *Life Safety Code* is followed in lieu of the egress requirements of the BOCA National Building Code.

Structural Design in general is also governed by the BOCA *National Building Code*. However, seismic design must follow the provisions of the *Uniform Building Code* (UBC), issued by the International Conference of Building Officials (ICBO) and wind load design must follow the provisions for the Southern Building Congress International (SBCCI) Standard Building Code.

The BOCA *National Building Code* references the National Electric Code, issued by NFPA, which governs electrical design.

It is GSA policy to make maximum use of equivalency clauses in all the codes to assure flexibility. If there is a conflict between a code requirement and a GSA requirement, the GSA requirement will prevail.

GSA has an established policy to comply with local codes to the extent possible. Local and/or State officials will be given the opportunity to review the GSA project for compliance with

zoning ordinances. Comments from local jurisdictions will be carefully considered, but GSA has the final authority to accept or reject any comment.

2.1.2 Seventh and Mission Alternative

Location and Land Use

This site alternative is located on the southeast corner of the block bounded by Market Street on the northwest, Seventh Street on the northeast, Mission Street on the southeast and Eighth Street on the southwest. This site contains 158,861 square feet. The actual parcel abuts the corner of Mission and Seventh Streets (see Figure 2-1) and was formerly used as a Greyhound bus station. Two four-story vacant buildings are located on the eastern portion of the site adjacent to Seventh Street. Currently, most of the site is used for surface parking. During early site investigations, GSA had previously examined the site as a possible location for the federal building and identified it as a site which would meet federal needs. The site's proximity to the Federal Court of Appeals is considered a positive attribute.

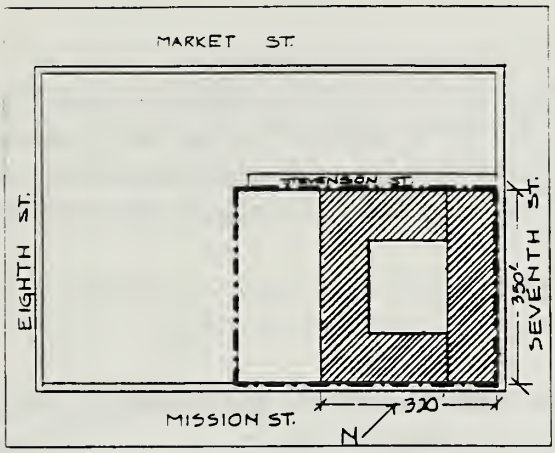
Local Authorizing Actions

This site would need to be acquired by the SFRA and conveyed to GSA. Prior to site acquisition, the Board of Supervisors would include the site in a redevelopment Survey Area and the City Planning Department would prepare a Preliminary Redevelopment Plan for review and approval by the City Planning commission. Following completion of the Preliminary Plan, a Final Redevelopment Plan would be prepared for approval by the SFRA, reviewed by the City Planning Commission for conformity with the City Master Plan, and adopted by the Board of Supervisors. The Redevelopment Plan would apply to all lands within the Seventh and Mission Alternative site area as indicated in Figures 2-1 and 3.7-1. Depending on circumstances at the time of project approval, the Board of Supervisors, SFRA, and the City Planning Commission may take other actions in connection with the project (e.g., issuance of bonds to finance acquisition, vacating some portions of adjoining streets rights-of-way, adoption of conforming Master Plan amendments). The Final Redevelopment Plan and any other authorizing actions would be approved following certification of this environmental review document pursuant to CEQA.

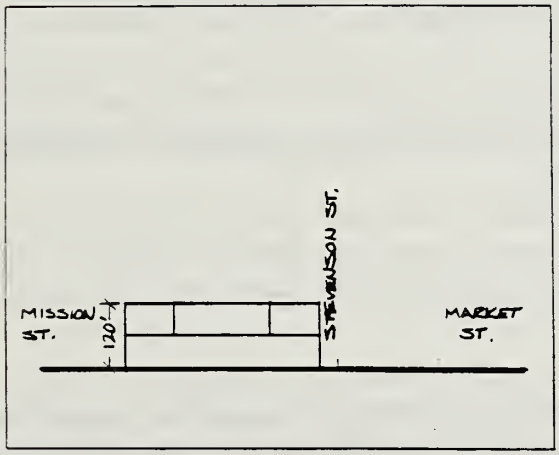
Characteristics

The alternative project's general characteristics would be the same as the Tenth and Market Alternative. See Section 2.1.1 above. For the purposes of the wind tunnel and shadow analyses, two conceptual building configurations were developed by GSA. These differ from those of the Tenth and Market Alternative. The building configurations are shown in Figure 2-3.

CONCEPT PLAN OPTION 1



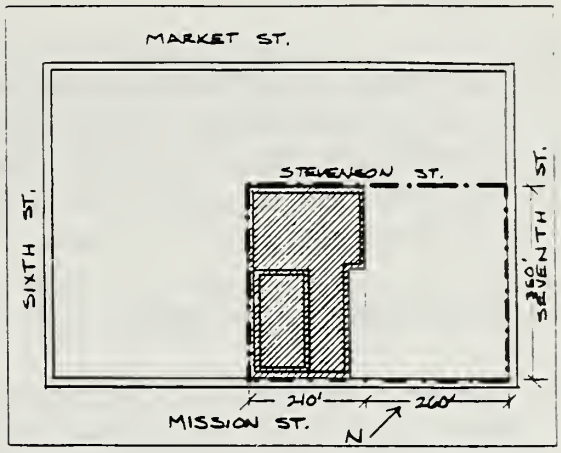
SITE PLAN



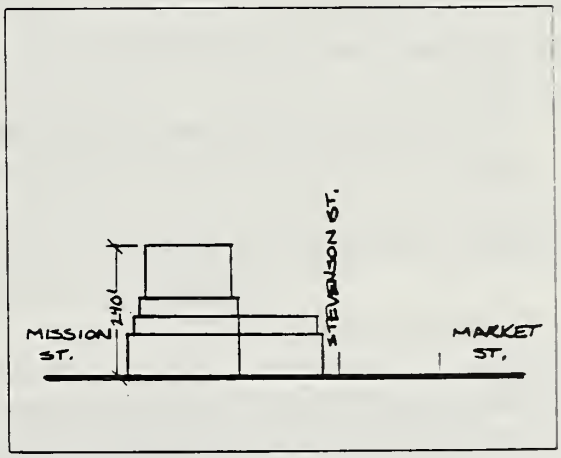
SEVENTH STREET ELEVATION

Seventh & Mission Site

CONCEPT PLAN OPTION 2



SITE PLAN



SEVENTH STREET ELEVATION

Seventh & Mission Site

SAN FRANCISCO FEDERAL BUILDING
SEVENTH AND MISSION ALTERNATIVE

Figure 2-3

Space Utilization and Employment

Project space utilization and employment would be the same as the Tenth and Market Alternative. See Section 2.1.1 above.

Construction

Construction details would be similar to those listed for the Tenth and Market Alternative with the exception that piles may be driven at this site. It is not anticipated that adjoining uses would have the same level of sensitivity to construction activity as the Bank of America Data Center; therefore, a test pile program would not be undertaken for this site. Impacts from pile driving are discussed in Section 3.5, Noise.

Area Zoning Requirements

This site is also situated in the area covered by the Downtown Plan, a part of the City's Master Plan. The Seventh and Mission Alternative site is zoned C-3-G, Downtown Commercial District. Areas surrounding the site are zoned Public District, Service/Light Industrial/ Residential and Residential Enclave District.

Four different height and bulk districts affect the site. These districts are governed by Sections 260 and 270 of the Planning Code. Allowable heights on the site range from 90 feet to 240 feet. A full discussion of applicable codes is set forth in Section 3.7, Land Use.

Construction Codes and Standards

The same codes and standards described under the Tenth and Market Alternative would also be adhered to for the Seventh and Mission Alternative.

2.1.3 Purchase Alternative

Location and Land Use

Under this alternative, GSA would purchase an existing building to consolidate several federal executive agencies in one location. No site is specified in the EIS/EIR for a building purchase. For the purposes of this document, the analysis assumes that an office building would be purchased which approximates the space needs of the federal agencies to be housed (475,000 OSF). Several years ago, GSA conducted an informal site search and several properties were identified and analyzed for suitability. Specifics regarding the properties are confidential. However, all buildings examined would likely require renovation or modification to meet the special needs of the proposed tenants. Congressional authorization would be required for the purchase of a building.

Local Authorizing Actions

This alternative would not require any actions by the SFRA or City.

Characteristics

Generally, the purchase and occupancy of an existing building would not cause significant environmental impacts unless vacant. Renovations required by specific agency needs may create short-term, construction-related impacts to traffic and air quality. The EIS/EIR identifies those impacts and discusses them qualitatively. Without a specific site for analysis, quantification of impacts is generally not possible.

A purchased building would likely be located in the downtown area. There are no structures currently available in the Civic Center Area that would meet federal space needs.

Construction Codes and Standards

A purchased building not complying with GSA mandated building standards would be retrofitted in accordance with the UBC and all applicable federally mandated codes and standards.

2.1.4 Lease Alternative

Under this alternative, GSA would attempt to acquire leases on large-block office space in the Downtown or near the Civic Center. The goal would be to consolidate those agencies which are currently split into two or more locations. This would increase the efficiency of the individual agencies. However, as discussed in Section 1.2, it would not accomplish the government's goal of housing 75 percent of its agencies in federally owned space.

San Francisco currently has little available lease space that occupies the large-block requirements of the federal agencies that need to consolidate. There is no advantage to finding additional leased space if it does not at least accomplish the goal of consolidation.

Acquiring additional or different leased space would generally not result in significant environmental impacts. If the space is vacant, renovations required by specific agency needs may create short-term, construction-related impacts. The EIS/EIR will identify those impacts and discuss them qualitatively. Without specific sites for analysis, quantification of impacts is generally not possible.

Construction Codes and Standards

A leased building not complying with GSA mandated building standards would be retrofitted in accordance with the UBC and all applicable federally mandated codes and standards.

Local Authorizing Actions

This alternative would not require any action by the SFRA or City.

2.1.5 No Action Alternative

NEPA Section 1502.14(d) and CEQA Guidelines Section 15126(d)(2) require that an "alternative of no action" be included in the analysis. Currently, federal agencies proposed as tenants for the new building are primarily scattered throughout the City in leased properties. Under the No Action Alternative, no federal building would be constructed. Nor would the Federal government purchase a building or obtain large block lease space. Federal agencies would continue to meet their space needs by being housed in existing government owned and leased space.

2.1.6 Alternatives Examined But Not Considered Further

Several alternatives were considered and rejected in the process of identifying a reasonable range of alternatives. These were eliminated for regulatory and policy reasons. Each of these alternatives and the reason for their elimination is briefly discussed.

Buildings and Locations Outside the Central Business District

The Central Business District in San Francisco encompasses a core centered around the financial district (roughly bounded by Kearny Street, Washington Street, The Embarcadero and Folsom Street) together with the Downtown (the City's retail center) and the area South of Market, Mission Bay, South Van Ness, Civic Center and the Northeast Waterfront areas. Federal regulations (41 CFR 101-17.002) state the federal government's policy for housing its employees:

> "(c) In meeting space needs in urban areas: (1) first consideration shall be given to a centralized business district...including other specific areas of a city recommended by the elected chief executive office of the local government or a designee... "

The City's policy contained in its Master Plan is clear in recommending the location of federally owned buildings in or near the Civic Center, which is on the western edge of the Central Business District.

Buildings and Locations a Significant Distance from the Civic Center

San Francisco's Civic Center Plan promotes the policy of consolidating government functions in or near the Civic Center. According to the Civic Center Plan of San Francisco, which is part of the City and County's Master Plan, ". . . governmental activities of each level of government

[should be encouraged] to locate within a sphere of influence within the Civic Center to avoid inefficient dispersal of these activities throughout the area" (Policy 3 of Objective 2). Dispersal of activities demands greater use of surface transportation, causing greater traffic, noise and air quality impacts. In addition, dispersal of activities generally reduces the efficiency of government.

Extensions or Annexations to Existing Federal Buildings

GSA's existing San Francisco Federal Building inventory includes the U.S. Appraisers Building, the U.S. Custom House, the Federal Building at 50 United Nations Plaza, the Philip Burton Federal Building, and the U.S. Court of Appeals. Based on an analysis conducted by GSA, an extension to any of these existing Federal buildings would be inappropriate for the following reasons.

The U.S. Appraisers Building at 630 Sansome Street and the U.S. Custom House at 555 Battery Street share a city block and are built to the property line. The Appraisers Building, designed in 1939, has recently become eligible for listing on the National Register of Historic Places, and the Custom House, constructed between 1906 and 1911, is listed on the National Register of Historic Places. According to GSA, there is no potential for on-site expansion due to their historic status.

The Federal Office Building at 50 United Nations Plaza, located in the Civic Center area, is also built to the property lines. The Federal Office Building, a contributing building in the Civic Center National Historic Landmark District, occupies a piece of property with no adjacent available land. A study is now underway to determine whether an expansion of the basement and an extension of the upper floors on one side of the building could provide additional office space resulting in a more profitable building. Potential expansion space would be insignificant compared to the 475,000 occupiable square feet in the proposed San Francisco Federal Building. The order of magnitude of the potential expansion space is expected to be a maximum of 40,000 occupiable square feet.

The Phillip Burton Federal Building and Courthouse at 450 Golden Gate Avenue, which occupies an entire city block, is built to the property line along three sides. The building is set back from the sidewalk along the fourth side to provide an entrance plaza above a below-grade parking structure. The square footage of the plaza area, exclusive of the stairs and the building entrance at the upper building level, is 28,100 square feet. Any development of the plaza area is considered infeasible due to the extensive structural strengthening that would be required, and due to the loss of the parking that would result, as the interior parking garage is below the plaza.

Finally, the U.S. Court of Appeals at Seventh and Mission Streets, a National Register property currently undergoing a seismic upgrade and rehabilitation, is built to within a few feet of the sidewalk on two sides and is bounded by an alley on a third side. A parking lot and small office building site adjacent to the loading dock side of the courthouse are currently being considered

for acquisition to meet Court of Appeals future expansion. This site acquisition would be at market rates, unlike the San Francisco Federal Building site which would be acquired through donation from the City. The maximum site development allowed under current zoning regulations could provide 322,000 occupiable square feet, less than the 475,000 occupiable square feet required for the San Francisco Federal Building under Public Law No. 102-393.

Base Realignment and Closure Act Properties

There are two base closure properties in San Francisco: the Presidio, formerly administered by the U.S. Army which has been transferred to the National Park Service (NPS), and the Treasure Island Naval Facility. Neither of these properties is considered by GSA to be suitable for federal building construction.

The Presidio's 870 buildings are mainly two-story wood frame structures, many of them with historic significance. Extensive rehabilitation of the structures would be needed to meet the current building codes and the Uniform Federal Accessibility Standards and the Americans with Disabilities Act requirements. Some of the site's infrastructure, such as the water and sewer systems, also needs to be upgraded. The Presidio's coastal location is four miles from the Central Business District and is adjacent to some of San Francisco's residential areas. At this time, minimal bus service and automobile travel are the only two modes of transportation to this location. This property is included within the boundaries of the Golden Gate National Recreation Area and reverted to the NPS on October 1, 1994. The NPS has prepared a General Management Plan which proposes that the Presidio become an urban park and a center for research and learning, hosting programs of national and international distinction devoted to social, cultural, and environmental issues. Although a few individual federal agencies might have missions that would be appropriate to the NPS plan, it does not appear that federal agency tenancy, in general, would be consistent with the overall focus of the proposed land use plan.

Treasure Island is a complex of buildings on an artificial island located between San Francisco and Oakland. This island can only be accessed by the San Francisco Bay Bridge or by boat. Therefore, the only convenient means of transportation to the site are by automobile or through bus service. Many of the buildings on Treasure Island are plaster or wood-frame buildings that were part of the World Exposition in 1939. Most of the buildings comply with the Navy's Design Manual, which calls for seismic design that meets or exceeds UBC requirements. All major utilities, water, power and telecommunications are brought to the island in a system of conduits that are attached to the structural framework of the San Francisco Bay Bridge. During the 1989 Loma Prieta earthquake, all major utilities to the island were lost when portions of the conduit were severed. A portion of the bridge itself separated from the rest of the structure and that transportation link was lost for over two months while repairs were made. Given the fact that personnel could be isolated and services could again be disrupted in the event of an earthquake, the isolation of this location from major transportation services and public access, and the likelihood of expensive hazardous materials clean-up, it is deemed not a suitable location for providing general purpose federal office space.

2.1.7 Cumulative Development Considered In Analysis

The analysis of a project considers its impacts in light of the existing development. To be meaningful from a planning perspective, and to fulfill the requirements of NEPA and CEQA, it must also consider the project's impacts within the context of cumulative development. Cumulative development includes all existing development and adds all reasonably foreseeable development. Different jurisdictions compute this development in different ways.

The San Francisco Planning Department defines cumulative development as the gross forecast of development within the metropolitan region where the site is located. This forecast, developed by the Association of Bay Area Governments (ABAG), is a projection of likely development based upon factors such as zoning and market demands. The planning period for this forecast is to the year 2010. The present size of the State Office Building project at Golden Gate and Larkin, and the proposed Federal Building were not considered when the forecasts were developed. For purposes of this project, the additional square footage from these buildings will be added to the ABAG forecast, and the result will serve as the basis for analyzing the cumulative impacts of the project.

2.1.8 Environmentally Superior Alternative

The environmentally superior alternative is the alternative that best promotes the national environmental policy expressed in NEPA, and state environmental policy expressed in CEQA. In general, this refers to the alternative that would result in the least damage to the environment and best protect the natural and cultural resources.

It is assumed that the No Action alternative would preclude the provision of new federal space needed to consolidate agencies located in multiple locations. Implementation of the No Action alternative would cause the federal government to continue to operate with agencies housed in multiple locations, thus reducing efficiency.

CEQA Guidelines Section 15126(4) specifies that "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Other than the No Action Alternative, the lease or purchase alternatives are considered to be environmentally preferable. This is due to the fact that neither of these alternatives would require construction of a new building with associated impacts, both short and long term (wind, visual, historic, shadow, etc.). Therefore, the lease or purchase alternatives would eliminate project related environmental impacts.

3.0 AFFECTED ENVIRONMENT

This section describes the existing conditions at each of the alternative sites under consideration as possible locations for the proposed San Francisco Federal Building. The affected environment is described with regard to sixteen issue areas including Geology and Landform, Vegetation and Wildlife, Drainage, Air Quality, Noise, Natural or Depletable Resources, Land Use Consistency, Socioeconomics and Real Estate Market, Aesthetic/Visual Resources, Historic Resources, Public Utilities and Public Services, Transportation and Circulation, Hazardous Substances, Wind, Archaeological Resources and Shadow. Each issue area is discussed on both a regional level and a site specific level for each of the alternatives (Tenth and Market, Seventh and Mission, Purchase, Lease and No Action). In some cases, the regional setting will describe the conditions existing at specific sites When this occurs, the reader is referred to the regional setting in lieu of a site specific description.

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3.1 GEOLOGY AND LANDFORM

This discussion of geologic and soil conditions in the project area includes information from the following sources: the *Mission Bay FEIR (1990)*, City and County of San Francisco Department of Planning; the *Master Plan (1988)*, City and County of San Francisco Department of Planning; the *San Francisco Main Library FEIR (1992)*, and the City and County of San Francisco Department of Planning.

3.1.1 Regional Setting

The San Francisco Peninsula is located within the California Coastal Range geomorphic province, and is underlain by bedrock of the Franciscan Formation (Late Jurassic to Cretaceous), and the Great Valley Sequence. The peninsula is bisected by foothills associated with the Coastal Range, and contains fragments of the Coastal Range ophiolite. The peninsula forms the southwestern boundary of San Francisco Bay, which receives drainage from the adjacent Great Valley geomorphic province via the Sacramento River. Lithologies recognized on the peninsula include sandstone, shale, chert, and greenstone of the Franciscan Formation, sandstone and shale of the Great Valley sequence, and serpentine, gabbro and dunite of the Coastal Range.

Seismic Conditions

Seismic activity is common throughout California. Numerous folds and faults are located within northern California, and are indicative of the tectonic activity occurring within the California region. The maximum credible event expected to occur along faults within 50 miles of San Francisco is presented in Table 3.1-1. A maximum credible earthquake is defined as a "worst-case" event.

Special geologic study areas[1] are illustrated in Figure 3.1-1. No active faults or Alquist-Priolo Special Study Zones occur within the City of San Francisco[2]. However, several faults are located within the region, and have significantly affected structures in the past. Both the San Andreas and Hayward Faults have histories of earthquake activity, including the Loma Prieta earthquake in October 1989, which registered a Richter magnitude of 7.1. The epicenter of this quake was located northeast of Santa Cruz, approximately 60 miles from the project area.

The earthquake produced strong groundshaking that lasted approximately 15 seconds, and caused extensive damage to cities within the epicentral region, including Santa Cruz, Watsonville, Hollister, and Los Gatos. Other areas, including San Francisco and Oakland, also experienced damage.

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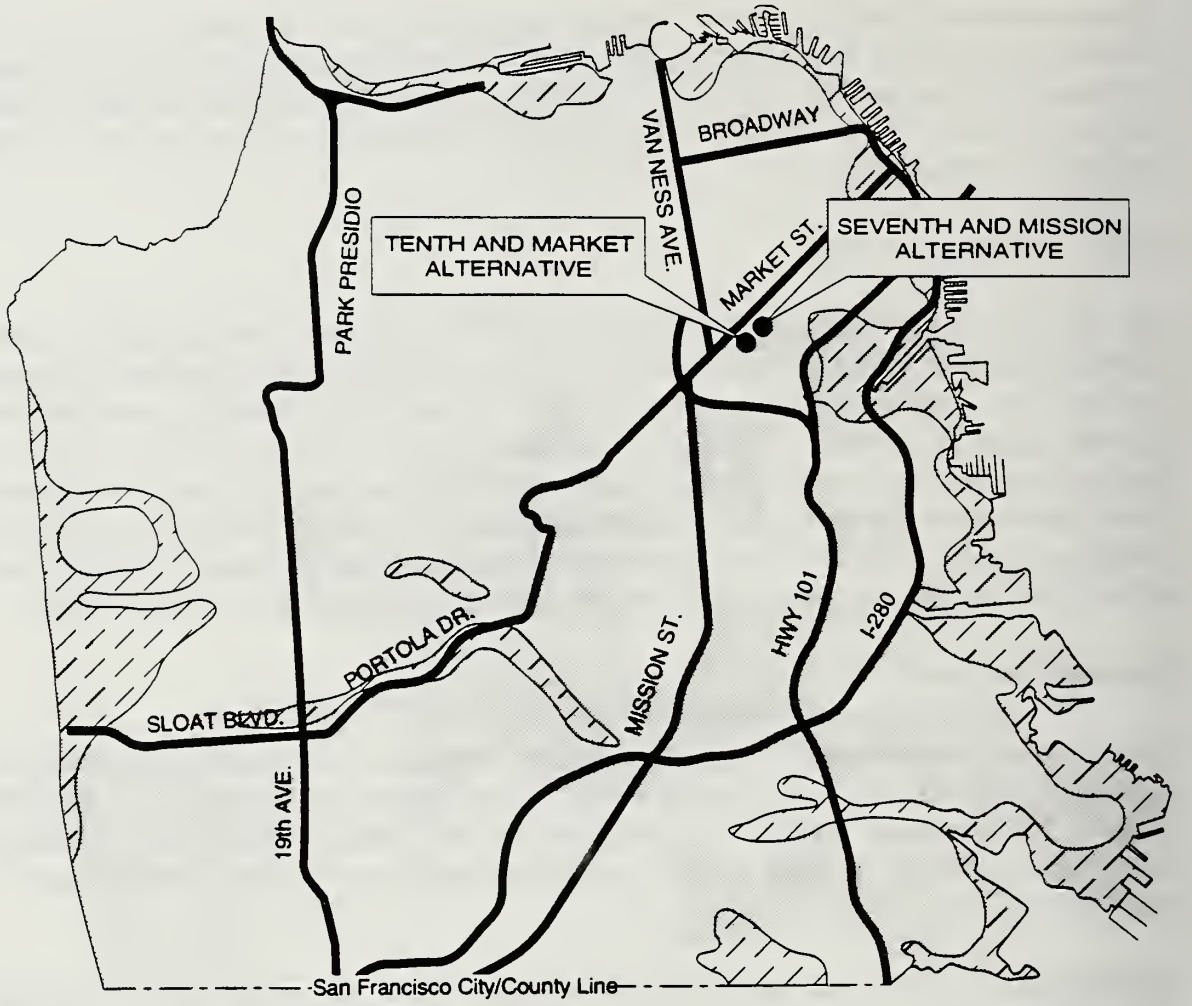
[1] Special Geologic Study Ares, as identified in the *San Francisco Master Plan*, include all areas of San Francisco in which one or more potential geologic hazards exist.

[2] Alquist-Priolo Special Studies Zone are delineated by the State of California Division of Mines and Geology (CDMG), and indicate areas of fault movement within the last 11,000 years. Any development within an Alquist-Priolo Special Studies Zone is required to complete a geologic study to assess geologic hazards.



LEGEND

Potential Ground Failure Hazards

Potential Inundation Hazards

SOURCE: City and County of San Francisco Master Plan (1988).

0' 8000'

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

SPECIAL GEOLOGIC STUDY AREAS

Figure 3.1-1

In general, damage within San Francisco was greatest in areas developed on filled land along the northern and eastern edge of the City. Liquefaction-induced ground failure and ground settlement associated with filled areas affected both the Marina District and South of Market area.

Older, unreinforced masonry buildings performed poorly, with partial collapse, foundation failure and parapet damage occurring through a wide area. This type of damage is typical of moderate-sized earthquakes.

Table 3.1-1
Faults Within 50 Miles of San Francisco

Name	Fault Type	Distance from San Francisco in miles	Maximum Credible Earthquake[1] (Magnitude)
SAN ANDREAS FAULT SYSTEM			
Antioch	Strike-Slip Right Lateral	36	7.0
Greenville	Same	35	6.5
Concord	Same	25	6.9
Green Valley	Same	25	6.9
Healdsburg/Rogers Creek	Same	26	7.5
San Gregorio	Same	12	7.5
Hayward	Same	10	7.5
Calaveras	Same	22	7.5
San Andreas	Same	8	8.3

Source: Burke, D.B. and Helley, E.L., 1973 map showing evidence for recent fault activity in the vicinity of Antioch, Contra Costa County, California: U.S. Geological Survey Miscellaneous Field Studies Map, MF-533.

[1] The term maximum credible earthquake (MCE) is defined as the largest earthquake which is likely to be generated along an active fault zone (Slemmons & Chung, 1982). The magnitude of the MCE is estimated from the geologic character and earthquake history of the fault. Most workers, when calculating the MCE for the strike-slip faults of the Coast Ranges, estimate the potential length of surface rupture, then use empirical relations which equate rupture length with earthquake magnitude. As a minimum, the MCE must equal the largest historic earthquake on a fault.

Stratigraphy and Soil Properties

The majority of the San Francisco area is underlain by the Franciscan Assemblage, a complex bedrock of ancient ocean floor materials which have been squeezed together and uplifted along the central and northern California coast. The assemblage contains a variety of rocks formed on the ocean floor and subsequently deformed by large-scale geologic processes. Before deposition of the younger sedimentary material on it, the Franciscan bedrock was exposed to the surface with considerable relief and deep weathering. Therefore, the bedrock surface is steeply sloping and irregular, as opposed to a flat solid surface at a continuous depth.

Four alluvial soil layers are present over the Franciscan assemblage in the eastern peninsula. The oldest of these layers, the San Antonio formation, overlies the Franciscan formation and consists of silts and overconsolidated marine clays of moderate strength and low compressibility. This layer may be more than 200 feet thick in the middle of the San Francisco Bay, but may not occur along the margins of the bay.

The two uppermost soil layers of the eastern peninsula consist of sediments with high compressibility and low strength. The Bay Mud layer overlies the sands of the Posey formation, and can be divided into two units, an older semi-consolidated member and a younger soft member. The older member is overconsolidated, but not as severely as the clays of the San Antonio formation. In general, both Bay Mud units are high in water content, weak and compressible; however, in some locations the older Bay Mud is stiff enough to support piles. Overlying the two Bay Mud units is a layer of fill material, which consists of highly variable mixtures of sands with some silts and clays, as well as rubble and cinders associated with demolition activities following the San Francisco earthquake of 1906.

Geologic Hazards

The following discussion has been limited to geologic hazards that may occur within the project area.

Groundshaking. Groundshaking or ground motion is caused by the release of accumulated energy during an earthquake. The energy is released in the form of seismic waves which travel outward in all directions from the earthquake epicenter. The intensity of groundshaking at a particular site is a function of several factors including maximum ground acceleration, near surface amplification, distance from the earthquake epicenter, duration of shaking and natural vibration speed. The primary effect of groundshaking is the damage or destruction of buildings and infrastructure, and thus potential for loss of life. In San Francisco, groundshaking of the greatest intensity would be generated from the San Andreas Fault, which has a Maximum Credible Earthquake magnitude of 8.3 (see Table 3.1-1).

During a seismic event, groundshaking intensity at a particular location is strongly affected by the underlying geologic materials. Thick, poorly consolidated soils tend to amplify and prolong

the shaking. In the San Francisco area, the soil most susceptible to shaking is Bay Mud. Miscellaneous uncompacted fill materials, such as sand and rubble, would also be susceptible to groundshaking. Both of these materials are found within the vicinity of the proposed project sites.

The City of San Francisco has been mapped for shaking intensities that would occur from a major earthquake (Blume, 1974). Maps depicting this information are known as Blume Maps. In conjunction with the mapping, a five-point scale for ground shaking ranging from E (weak) to A (very violent) has been developed. Table 3.1-2 shows the complete listing of intensities and their corresponding explanations.

Liquefaction. Liquefaction is the loss of soil strength due to seismic forces acting on saturated, granular soil, which leads to an unstable soil condition generating various types of ground failure. The potential for liquefaction is determined by soil type, soil densities, ground water table, and the duration of groundshaking.

Table 3.1-2
San Francisco Seismic Safety Investigation Evaluation

Intensity of Groundshaking	Explanation
A	Very violent. Cracking and shearing of rock masses. Deep and extended fissuring in soil, many large landslides and rockfalls.
B	Violent. Fairly general collapse of brick and frame structures when not usually strong. Serious cracking of better buildings. Lateral displacement of streets, bending of rails and ground fissuring.
C	Very strong. Masonry badly cracked with occasional collapse. Frame buildings lurched when on weak underpinning with occasional collapse.
D	Strong. General but not universal fall of brick chimneys. Cracks in masonry and brick work.
E	Weak. Occasional fall of brick chimneys and plaster.

Source: Blume, John A. and Associates. June, 1974.

Note: Intensities are given for earthquake similar to the 1906 event in Magnitude and proximity to San Francisco.

Liquefaction is most likely to occur in low-lying areas of poorly consolidated to unconsolidated water-saturated sediments or similar deposits of artificial fill. Areas of potential liquefaction are shown in Figure 3.1-2. In the San Francisco area, unengineered artificial fill was utilized during the mid-nineteenth century to reclaim property from the bay. Natural drainages were also reclaimed with unengineered artificial fill, including both Mission Creek and Islais Creek. Fill

associated with Mission Creek covers a large portion of the South of Market District, and can be found within the vicinity of the proposed project sites.

Subsidence. Subsidence is the sinking of the ground surface caused by the compression or collapse of earth materials. Subsidence in the City of San Francisco is primarily associated with ground water removal or migration and liquefaction. Areas of potential subsidence are shown in Figure 3.1-3.

Landslides/Mudslides. A landslide is the perceptible downslope movement of earth masses. It is part of the continuous, natural process of downhill movement of rock, soil and debris. The potential for landslides, mudslides, and slope instability exists in areas of the City with steep slopes and unstable soils. Areas of potential landslide hazards are shown in Figure 3.1-4. Because landslide hazards are not present in the project area, they are not discussed in Section 4.1.

Inundation. Given its location on the peninsula, portions of the City are subject to periodic tidal inundation. The 100-year high tide (the height which is equalled or exceeded with an average frequency of once every 100 years) would reach an elevation of approximately -2.0 feet San Francisco Datum (SFD).[3]

Areas potentially affected by tidal inundation are generally limited to low-lying areas along the "channel" portion of the peninsula, including the Marina District. Areas designated as having the potential for inundation are shown in Figure 3.1-5

Limited areas of the peninsula are also subject to inundation from water storage reservoirs in the event of dam or tank failure. Areas located downstream of these facilities and subject to potential inundation are shown in Figure 3.1-6. Potential causes for failure include seismic events, structural failure, erosion, and mass waste. Inundation is not discussed in Section 4.1

3.1.2 Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is located just south of Market Street near potential liquefaction and subsidence hazard areas delineated in the Community Safety Element of the San Francisco Master Plan. The site is not located within a Special Geologic Study Area or Alquist-Priolo Study Zone.[4] However, the site is located in an area that would be subject to a

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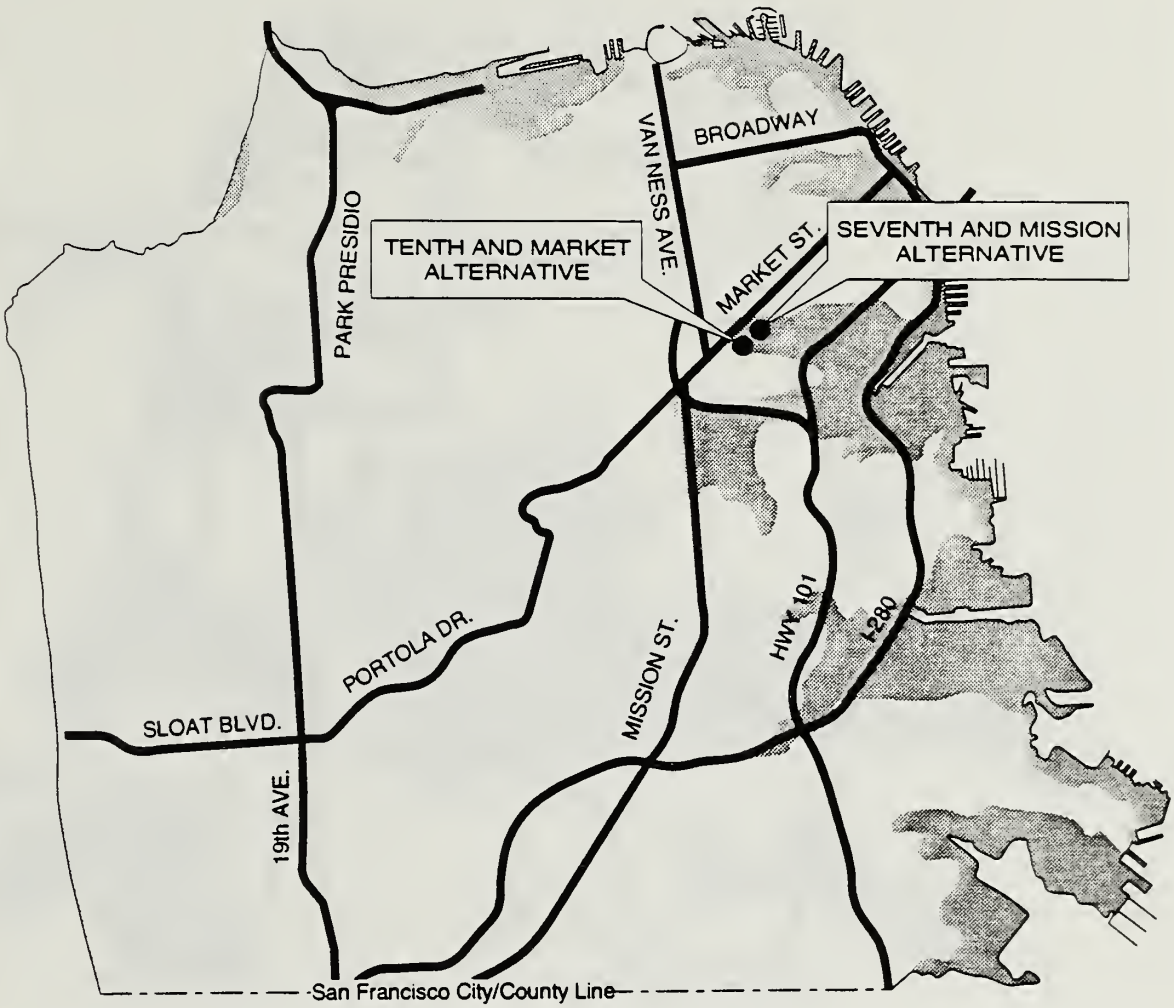
[3] San Francisco datum is a local reference elevation equivalent to approximately 8.6 feet above mean sea level.

[4] The Community Safety Element defines Special Geologic Study Areas based upon these potential hazards (see Figure 3.1-1). Objectives and Policies within the Element include Life Safety Policy 4, which requires geologic or soil engineering site investigations, and compensating structural design based on findings, for all new structures in special geologic study areas.



LEGEND

Conditions for Liquefaction Present

Conditions for Liquefaction Probably Present

SOURCE: City and County of San Francisco Master Plan (1988).

0' 8000'

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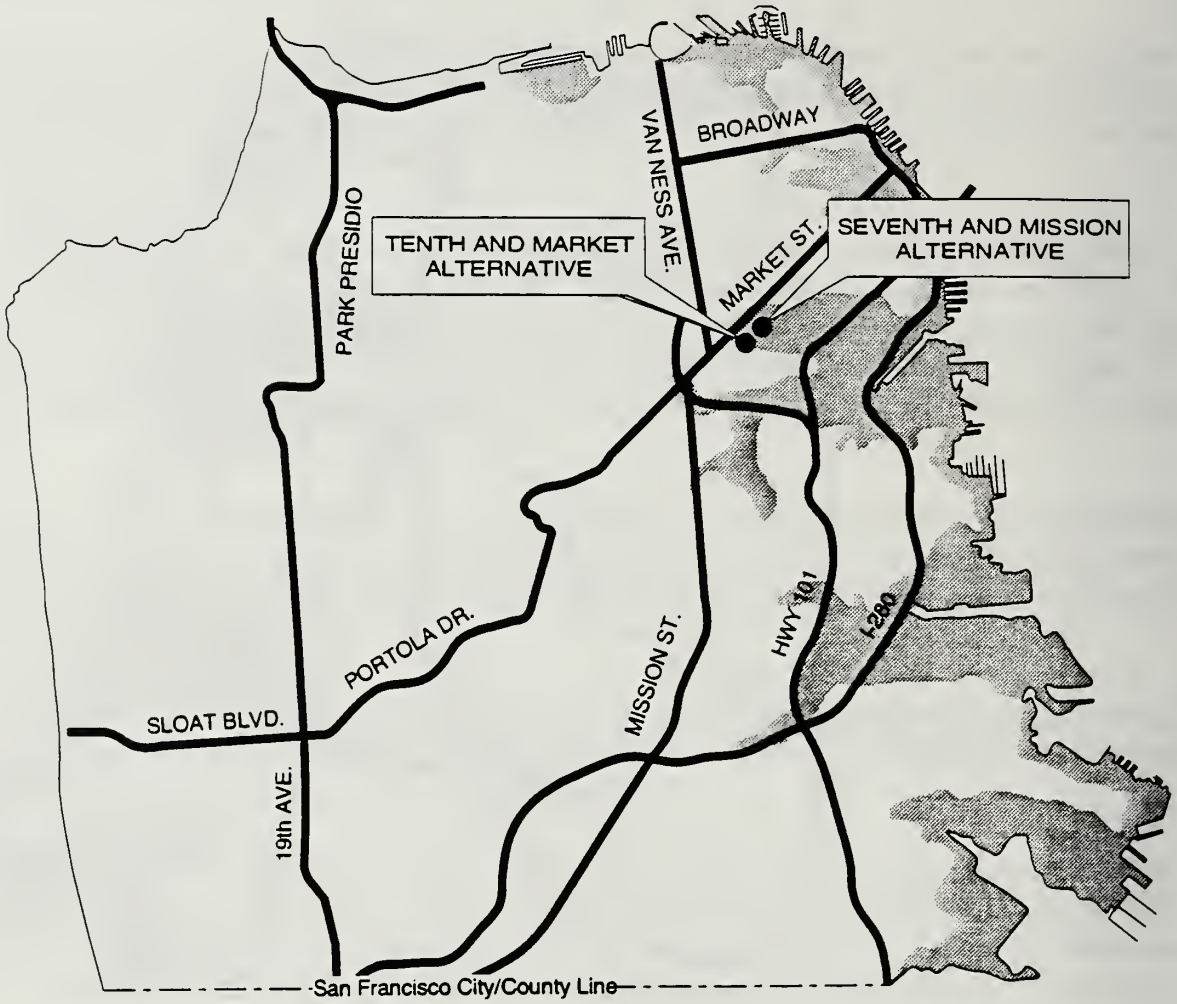
POTENTIAL LIQUIFACTION HAZARD AREAS

Figure 3.1-2



LEGEND

Potential Subsidence Hazards

SOURCE: City and County of San Francisco Master Plan (1988).

0' 8000'

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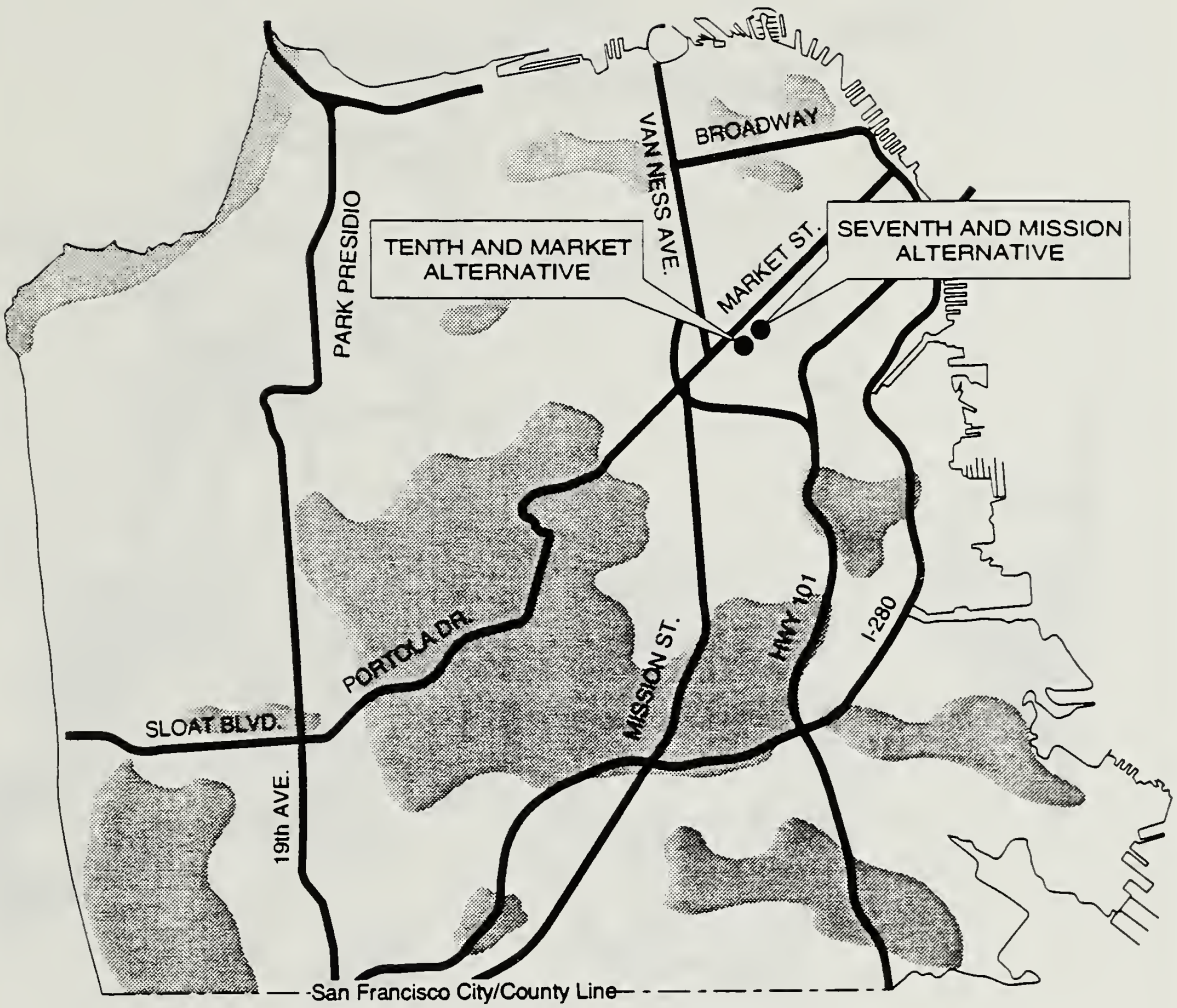
POTENTIAL SUBSIDENCE HAZARD AREAS

Figure 3.1-3



LEGEND

Potential Landslide Hazards

SOURCE: City and County of San Francisco Master Plan (1988).

0' 8000'

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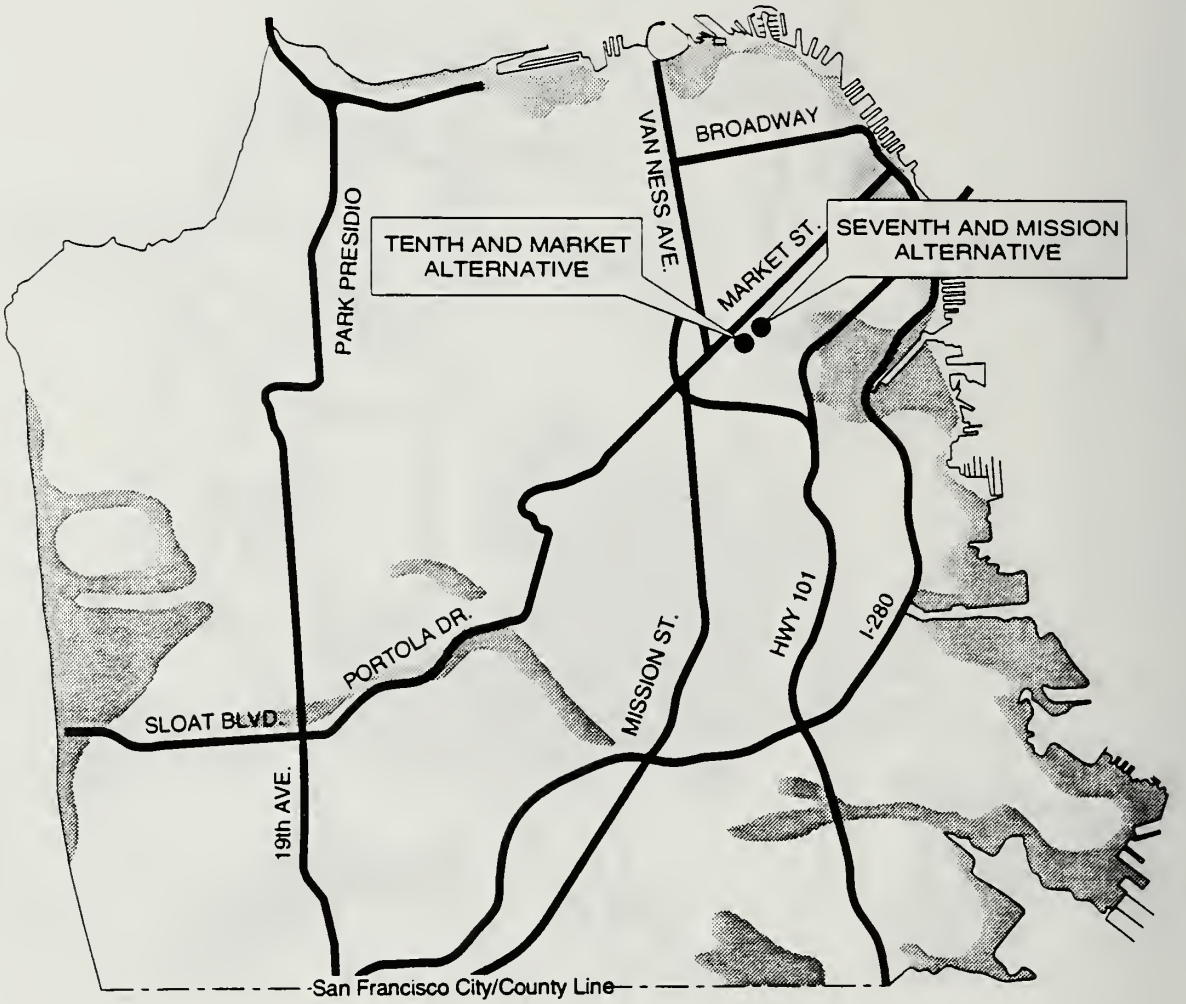
POTENTIAL LANDSLIDE AREAS

Figure 3.1-4



LEGEND

Potential Inundation Hazards

SOURCE: City and County of San Francisco Master Plan Community Safety Element

0' 8000'

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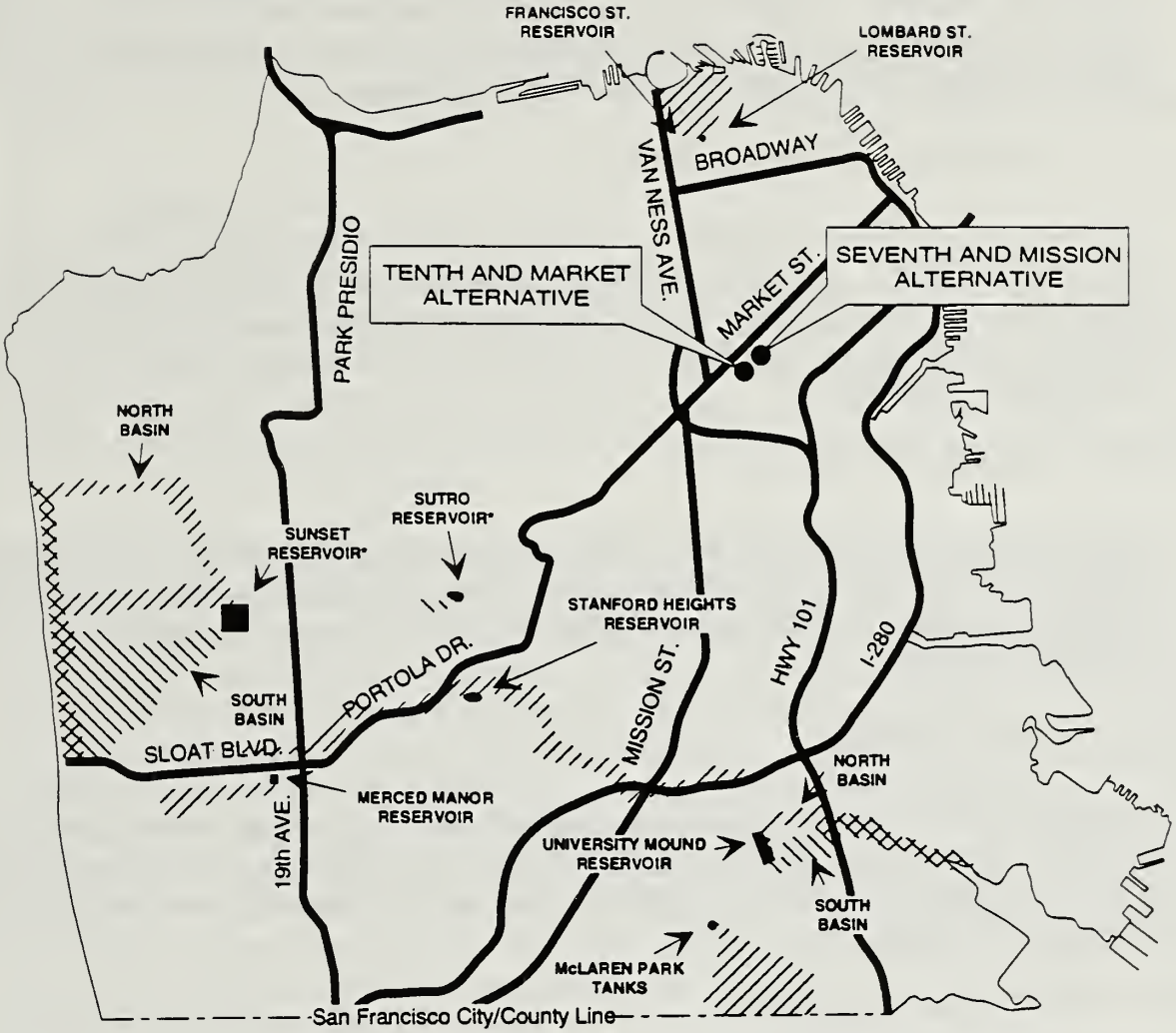
POTENTIAL INUNDATION HAZARD AREAS

Figure 3.1-5



SOURCE: City and County of San Francisco Master Plan (1988).

0' 8000'

SAN FRANCISCO FEDERAL BUILDING
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POTENTIAL INUNDATION AREAS DUE TO RESERVOIR FAILURE

Figure 3.1-6

groundshaking intensity of C (very strong) according to the Blume Maps. Under this designation, masonry would crack and buildings may collapse (see Table 3.1-2). In addition, frame buildings may lurch when on weak underpinnings and may collapse (Blume, 1974). The site is not located within landslide or inundation hazard areas.

B. Seventh and Mission Alternative

The Seventh and Mission alternative is located south of Market Street, and is in a Special Geologic Study Area. This area is subject to liquefaction and subsidence hazards as delineated in the Community Safety Element of the San Francisco Master Plan. The site is also in an area designated as B (violent) on the Blume map of the City. The site is not located within landslide or inundation hazard areas.

C. Purchase Alternative

The Purchase Alternative would result in the purchase of an office building at an undetermined site within the Central Business District (CBD). If located in the CBD, the site would generally be subject to potential liquefaction, subsidence and strong or violent groundshaking in the event of a major earthquake.

D. Lease Alternative

The Lease Alternative would result in the lease of office space at an undetermined site within the CBD. Although one site has not been identified, any location in the CBD would generally be subject to potential liquefaction, subsidence and strong or violent groundshaking in the event of a major earthquake.

E. No Action Alternative

Federal agencies currently occupy a number of leased and owned facilities within the CBD. Geologic conditions at these facilities are expected to be similar to those previously discussed.

3.2 VEGETATION AND WILDLIFE

Vegetation and wildlife resources of the project sites were evaluated based upon a site investigation conducted by Fugro West, Inc., in March 1994, as well as regional and local data sources.

3.2.1 Regional Setting

Prior to urbanization, the vicinity of the Tenth and Market and Seventh and Mission sites consisted of tidal marshland, coastal grassland, and riparian communities. Over its development history, however, the preferred site was covered with unconsolidated fill and rubble. Natural vegetation has been replaced with impervious surfaces such as streets, parking lots, and buildings. Furthermore, population numbers of native fauna within the region have declined due to the conversion of natural habitats.

The project site and alternative sites are consistent with the Heavily Developed Downtown Zone urban habitat category described by McBride and Reid (1988). The soil in these habitats has been modified by construction practices; air temperature is increased as heat-absorbing materials, such as asphalt and concrete, are introduced; shading is lost as tree canopy is removed (even though tree canopies may become more dense as urban landscaping matures); water quality and availability are diminished as impervious surfaces increase and urban pollutants accumulate; and air quality diminishes as emissions from autos, homes, and commercial entities increase (Vessel and Wong 1987; Leedy et al., 1978). The biological resources, such as roosting and nesting sites, escape cover, migration and/or travel corridors, and foraging habitat, are lost or altered as a result of these processes. Consequently, the changes to the abiotic and biotic environments result in very low species populations and diversity and favor those species and communities that tolerate these conditions, and are able to exploit human food resources and use buildings or other manmade structures for cover and nesting.

Federal agencies, as directed under the Endangered Species Act (ESA) of 1973 (as amended), must ensure that actions authorized, funded, or carried out will not jeopardize the existence of any threatened or endangered species, and/or critical habitat. The California Natural Diversity Data Base, an inventory of recorded observances of sensitive plants, sensitive animal, and natural communities (State and Federal) was queried for occurrences of habitats and taxa within the project vicinity (San Francisco North USGS 7.5' quadrangle). The query identified no sensitive natural communities in the area.

The City of San Francisco has a tree ordinance to preserve street trees and provide for the planting of street trees in the City. The ordinance requires the protection of street trees from construction work and conformance to guidelines established by the Assistant Superintendent of Urban Forestry. A permit from the Department of Public Works is required before the removal of any street tree is allowed (DPW Sec. 808 of S.F. Public Works Code).

3.2.2 Site Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is a parcel currently occupied by impervious surface cover and buildings. Vegetation on the site is confined to several sycamore street trees *(Platanus racemosa)*. On the basis of size and species, the site does not contain any heritage trees.

B. Seventh and Mission Alternative

The Seventh and Mission Alternative site is currently the Greyhound Bus Depot and a parking lot. Vegetation on the site is confined to ruderal, or weedy, vegetation and some ornamental trees at the southeast corner of the site.

C. Purchase Alternative

No specific site has been identified for purchase by GSA. Therefore, no description of the site-specific setting is possible.

D. Lease Alternative

No specific site has been identified for lease by GSA. Therefore, no description of the site-specific setting is possible.

E. No Action Alternative

Under the No Action Alternative, the offices of federal agencies would remain in federally owned or commercially and leased office spaces. These office spaces are located in several buildings around the CBD.

3.3 DRAINAGE

This section discusses drainage issues for the alternative sites. Geologic hazards are discussed in Section 3.1, Geology and Landform. The following discussion of drainage utilized information from the following sources; the *Mission Bay FEIR (1990)*, prepared by the City and County of San Francisco; the *Draft General Management Plan Amendment Presidio of California (1993)*, prepared by the U.S. Department of the Interior; and consultation with City and County of San Francisco Public Works staff.

3.3.1 Regional Setting

The City of San Francisco is located on the San Francisco Peninsula, which extends between the Pacific Ocean and the San Francisco Bay. Drainage of the peninsula is divided into four watersheds which generally correspond to natural topography. The peninsula is divided into Westside and Bayside drainage areas by foothills associated with the Coastal Range that run north-south through the center of the peninsula and extend to an elevation of 920 feet. Smaller drainage areas exist in the northern and southeastern portions of the peninsula.

The San Francisco area has a temperate maritime climate characterized by cool wet winters and foggy summers. Extreme temperatures are rare due to the maritime influence. Annual maximum and minimum temperatures are seldom above 80°F or below 40°F. The annual average high temperature is 66°F. Areas with marine exposure are considerably cooler. Mean annual precipitation is approximately 21 inches, the majority of which occurs from November to April. Runoff on the peninsula is directly related to precipitation events, as climactic and landform characteristics are not conducive to continuous runoff.

Precipitation events are generally discussed in terms of recurrence interval, which defines the frequency at which a given size storm, and resulting drainage flow, is likely to occur. Therefore, a 100-year event is a storm that is statistically expected to occur on the average of once every 100 years. The 100-year event is generally utilized for planning and flood plain management purposes, and the Federal Emergency Management Agency delineates flood plains associated with a 100-year event for insurance regulation. There are no delineated 100-year flood plains within the City of San Francisco (Anderson, personal communication, 1994). Drainage of the City is via sheet flow along city streets to drains connected to the City sewer system, which is operated by the San Francisco Clean Water Program. The system conveys both storm water and wastewater to five Water Pollution Control Plants, which provide treatment and ocean discharge.

3.3.2 Site Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site consists of approximately 2.1 acres and is located within the Bayside drainage area. The site is currently developed with two- and four-story structures. A former car wash and pump island canopy are located on the corner of Mission and Tenth Streets. The majority of the site is covered by impervious surface areas, with the exception of limited landscaping areas. Drainage flows from the site generated by storms with a 5-year frequency or less are conveyed within the underground sewer system southward along Tenth Street to the Berry Street Pump Station via an 81-inch drainage/sewer main. This station is part of the Bayside Core System, which conveys both drainage and wastewater from the Bayside drainage area to the Southeast Water Pollution Control Plant.

Drainage flows generated by precipitation events with a greater than 5-year frequency are conveyed via surface streets southward toward the San Francisco Bay. City of San Francisco Public Works staff indicate that sheet flooding and ponding occur in the South of Market area due to the lack of slope associated with the area. However, this sheet flooding is of a temporary nature, and is not considered significant (Anderson, personal communication, 1994). The proposed action site is not located within any potential tidal or reservoir inundation areas.

B. Seventh and Mission Alternative

The Seventh and Mission Alternative is approximately 3.6 acres and is also located within the Bayside drainage area. The site was previously developed with a Greyhound bus station. The majority of the site currently is covered with impervious surface area and is used for parking, with the exception of limited landscaping areas. Two 4-story vacant buildings are located adjacent to Seventh Street. As the Seventh and Mission Alternative is located within the same drainage area as the proposed action site, conveyance of drainage is in the same manner, with flows conveyed southward to the Berry Street Pump Station via a 66-inch drainage/sewer main located in Seventh Street. As previously discussed, conveyance of drainage flows via surface streets during storm events of a greater than 5-year frequency is affected by the lack of slope in the South of Market Area. The Seventh and Mission Alternative is not located within any potential tidal or reservoir inundation areas.

C. Purchase Alternative

The Purchase Alternative would result in the purchase of office space at an undetermined site within the CBD. Although this site has not been defined, drainage characteristics are expected to be similar to those previously discussed, as the CBD is urbanized. No areas of potential tidal or reservoir inundation exist within the CBD.

D. Lease Alternative

The Lease Alternative would result in the lease of office space at an undetermined site within the CBD. Although this site has not yet been defined, drainage characteristics are expected to be similar to those previously discussed, as the CBD is urbanized. No areas of potential tidal or reservoir inundation exist within the CBD.

E. No Action Alternative

Federal agencies currently occupy several leased and owned facilities within the CBD area. Drainage characteristics of these facilities are similar to those previously discussed.

3.4 AIR QUALITY

3.4.1 Regional Setting

General Climate and Meteorology

The proposed project is located in the western (coastal) portion of the San Francisco Bay Area Air Basin. The summer climate is dominated by a semi-permanent high pressure area (Pacific High) centered over the northeastern Pacific Ocean, resulting in northwest winds and negligible precipitation. A thermal low pressure area in the Central Valley and Mojave Desert causes onshore air flow much of the time. Upwelling of cold water adjacent to the coast causes condensation of moisture-laden winds, resulting in a high incidence of fog in the summer. In winter, the Pacific High weakens and storms become frequent between November and April. Vertical mixing of the air is generally reduced by surface inversion layers formed during winter (between storms) and may result in the accumulation of pollutants (especially carbon monoxide).

The nearest climatic data station to the proposed project is the Weather Service Office (WSO) weather station at the Federal Office Building, at 50 United Nations Plaza. The average daily maximum temperature recorded at this station is 62.5 degrees for the period of 1951 to 1980 (National Oceanic and Atmospheric Administration [NOAA], 1982). Due to the prevalence of summer fog, the hottest months are September and October, with average maximum daily temperatures of 68.9 and 68.3, respectively. The coolest month is January with an average daily minimum temperature (1951-1980) of 46.2 degrees. The average annual precipitation recorded at the San Francisco Federal Building WSO for the same period is 19.33 inches. Approximately 90 percent of this precipitation occurs between November and April (NOAA, 1982).

Winds in the project area are dominated by flow from the northwest, generated by the thermal low pressure area in the Central Valley and accelerated through the Golden Gate (mouth of San Francisco Bay). This air flow branches off, producing southwest winds at Berkeley and northwest winds at San Jose. The northeast component is channeled through the Carquinez Strait into the Central Valley. Wind speeds are high where air flow is channeled through a narrow channel such as the Golden Gate, producing an average July afternoon wind speed of 17 knots at the San Francisco International Airport. Wind speeds are much lower in other portions of the Bay Area, such as San Jose where summer afternoon wind speeds are typically only seven knots. A sea breeze caused by differential heating of land and water masses also occurs in the project area. As the day progresses, the sea breeze layer deepens and intensifies while spreading inland. Initially, the low coastal hills of the northern end of the San Francisco peninsula block the flow such that flow is first observed through the Golden Gate. As the breeze deepens and intensifies, it can be observed as a bank of stratus clouds moving over the coastal hills. The depth of this sea breeze layer is dependent upon the height and presence of temperature inversions.

The level topography and cool summer temperatures of the project area (San Francisco) prevent ozone formation such that the State 1-hour ozone standard has not been exceeded in recent years. However, other areas within the air basin outside of San Francisco have problematic ozone conditions. High summer temperatures and complex topography in the Gilroy and Los Gatos areas result in the highest ozone concentrations in the air basin.

Air Monitoring Network

The air quality of the San Francisco Bay Area Air Basin is monitored by a network of 30 air monitoring stations in nine counties. Each of these stations are operated by the Bay Area Air Quality Management District (BAAQMD). The San Francisco County portion of this network includes two monitoring stations; one on Ellis Street and the second on Arkansas Street. The Ellis Street station is about 0.5 miles north of the Tenth and Market and Seventh and Mission sites and the Arkansas Street station is approximately 1.3 miles southeast of the Tenth and Market and Seventh and Mission sites. Since the Ellis Street station is nearest the project sites, data from this station is most representative. However, this station only monitors carbon monoxide.

Air Quality Standards

Air quality standards are threshold limits of specific concentrations of pollutants used to protect public health and welfare. The U.S. Environmental Protection Agency (EPA) has developed primary and secondary standards. Primary standards are designed to provide an adequate margin of safety to protect human health and secondary standards are designed to protect the public welfare from any known or anticipated adverse effects. Excluding sulfur dioxide, primary and secondary standards are identical. These standards were developed as part of the mandates of the Federal Clean Air Act (CAA) of 1977.

The California Environmental Protection Agency, Air Resources Board (ARB), a state agency, has developed air quality standards which are generally more stringent than the Federal standards. California standards exist for ozone, carbon monoxide, PM_{10} (particulate matter), visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride. Table 3.4-1 lists the State and Federal air quality standards.

Effects of Air Pollution

The primary chemical compounds that are considered pollutants emitted into or formed in the atmosphere include ozone, oxides of nitrogen, sulfur dioxide, reactive organic gases, carbon monoxide, and particulate matter.

Ozone is a pungent, colorless gas that is a strong irritant and attacks the respiratory system. Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions between nitrogen oxides (NOx) and reactive

organic gases (ROG) in the presence of sunlight. Respiratory and cardiovascular diseases are aggravated by exposure to ground level ozone. A healthy person exposed to high concentrations of ground level ozone may experience nausea, dizziness, and burning in the chest. Ground level ozone also damages crops and other vegetation.

Oxides of nitrogen (NO_x) which are considered pollutants include nitric oxide (NO) and nitrogen dioxide (NO_2). NO is colorless and odorless and is generally formed by combustion processes combining atmospheric oxygen and nitrogen. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen in the atmosphere or at the emission source.

Table 3.4-1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
Ozone	1-hour	0.09 ppm (180 $\mu g/m^3$)	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Standard
Carbon Monoxide	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	Same as Primary Standard
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as Primary Standard
Nitrogen Dioxide	Annual Average	—	100 $\mu g/m^3$ (0.053 ppm)	Same as Primary Standard
	1-hour	0.25 ppm (470 $\mu g/m^3$)	—	Same as Primary Standard
Sulfur Dioxide	Annual Average	—	80 $\mu g/m^3$ (0.03 ppm)	—
	24-hour	0.05 ppm[f] (131 $\mu g/m^3$)[f]	365 $\mu g/m^3$ (0.14 ppm)	—
	3-hour	—	—	1,300 $\mu g/m^3$
	1-hour	0.25 ppm (655 $\mu g/m^3$)	—	—
Suspended Particulate Matter Less Than 10 Microns Diameter (PM_{10})	Annual Geometric Mean	30 $\mu g/m^3$	—	—
	Annual Arithmetic Mean	—	50 $\mu g/m^3$	Same as Primary Standard
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as Primary Standard
Sulfates	24-hour	25 $\mu g/m^3$	—	—
Lead	30-day Average	1.5 $\mu g/m^3$	—	—

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
	Calendar Quarter	—	1.5 $\mu g/m^3$	Same as Primary Standard
Hydrogen Sulfide	1-hour	0.03 ppm (42 $\mu g/m^3$)	—	—
Vinyl Chloride (Chloroethene)	24-hour	0.010 ppm (26 $\mu g/m^3$)	—	—
Visibility Reducing Particles	8 hr (10 am to 6 pm, PST)	In sufficient amount to produce an extinction coefficient of 0.23 due to particles when the relative humidity is less than 70%.	—	—

Source: Air Resources Board, 1991. California Air Quality Data Summary.

Notes to Table 3.4-1:

a California standards for ozone, carbon monoxide, sulfur dioxide (1-hour), nitrogen dioxide, and particulate matter (PM_{10}) are values that are not to be exceeded. The sulfate, lead, hydrogen sulfide, vinyl chloride, and visibility-reducing particles standards are not to be equaled or exceeded.

b National standards, other than ozone and those based on annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum-hourly average concentrations above the standard is equal to or less than 1.

c Concentrations expressed first in units promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of Hg (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. $\mu g/m^3$ = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter.

d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the Environmental Protection Agency.

e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standard within a "reasonable time" after the implementation plan is approved by the EPA.

f At locations where the state standards for ozone and/or suspended particulate matter are violated. National standards apply elsewhere.

g Prevailing visibility is defined as the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

Both NO and NO_2 are considered ozone precursors because they react with hydrocarbons and oxygen to produce ozone. Exposure to NO_2 may increase the potential for respiratory infections in children and cause difficulty in breathing even among healthy persons and especially among asthmatics.

Sulfur dioxide (SO_2) is a colorless, pungent, irritating gas which affects the upper respiratory tract. Sulfur dioxide may combine with particulate matter and settle in the lungs, causing damage to lung tissues. Sulfur dioxide may combine with water in the atmosphere to form sulfuric acid which may fall as acid rain, damaging vegetation.

Reactive organic gases (ROG) include a wide variety of compounds containing hydrogen and carbon. ROGs react with NO and NO_2 to form ozone. Generally, ambient ROG concentrations do not cause adverse health effects directly, but result in ozone formation.

Carbon monoxide (CO) is a colorless, odorless gas generally formed by incomplete combustion of hydrocarbon-containing fuels. Carbon monoxide does not irritate the respiratory tract, but does interfere with the ability of blood to carry oxygen to vital tissues.

Particulate matter consists of a wide variety of particle sizes and composition. Generally, particles less than 10 microns (PM_{10}) are considered to be pollutants because they accumulate in the lung tissues and may contain toxic materials which can be absorbed into the system.

General Air Quality Trends

Two pollutants (ozone and PM_{10}) are of particular interest because State air quality standards for these pollutants are regularly exceeded in the Air Basin. Table 3.4-2 lists the maximum concentrations monitored and number of instances in which air quality standards were exceeded for the years 1990, 1991, 1992, 1993 and 1994 at the Ellis Street and Arkansas Street stations.

The ozone concentrations monitored at the Arkansas Street station during 1990-1994 did not exceed the State standard (0.09 ppm) or Federal standard (0.12 ppm). PM_{10} concentrations regularly exceed the State 24-hour standard (50 ug/m^3), but rarely exceed the Federal 24-hour standard (150 ug/m^3). The State or Federal annual standards were not exceeded at the Arkansas Street station. Carbon monoxide concentrations were lower in 1992 and 1993, probably a consequence of the introduction of oxygenated fuels in November 1992.

Table 3.4-2
Air Quality Standard Exceedances

	1990	1991	1992	1993	1994
Ozone - Arkansas Street (ppm)					
Worst Hour	0.06	0.05	0.08	0.08	0.06
Number of State Exceedances (Hours/Days >0.09 ppm)	0/0	0/0	0/0	0/0	0/0
Number of Federal Exceedances (Hours/Days >0.12 ppm)	0/0	0/0	0/0	0/0	0/0
Carbon Monoxide - Ellis Street (ppm)					
Worst Hour	12.0	14.0	10.0	10.0	N/A
Number of State Exceedances (Hours >20 ppm)	0	0	0	0	0
Number of State Exceedances (8 hours >9 ppm)	0	0	0	0	0

	1990	1991	1992	1993	1994
Nitrogen Dioxide - Arkansas Street (ppm)					
Worst Hour	0.11	0.10	0.09	0.08	0.09
Number of State Exceedances (Hours >0.25 ppm)	0	0	0	0	0
PM_{10} - Arkansas Street (micrograms/cubic meter)					
Worst Sample	165	109	81	69	N/A
Number of State Exceedances (Samples >50)	12	15	9	5	6
Annual Geometric Mean (Standard is 30)	27.8	29.7	27.6	25.1	24.7
Annual Arithmetic Mean (Standard is 50)	34.0	34.9	31.6	28.8	N/A

Sources: California Air Resources Board, Air Quality Data Summaries 1990, 1991, 1992, and 1993.
BAAQMD preliminary 1994 air monitoring data

Regulatory Setting

The air quality of the project area is regulated by the Federal Government (EPA) and State Government (Air Resources Board). The regulatory authorities of each are discussed below:

State. Assembly Bill 2595 (known as the California Clean Air Act [CCAA]) took effect on January 1, 1989 to attain the California Air Quality Standards (CAQS) by the earliest practicable date. The CCAA requires that each district designated a non-attainment area of the CAQS for ozone, carbon monoxide, sulfur dioxide or nitrogen dioxide submit a plan for attaining and maintaining these standards. The San Francisco Bay Area Air Basin was designated a "severe" non-attainment area for ozone and a "moderate" non-attainment area for carbon monoxide. The CCAA requires the most stringent control measures for non-attainment areas classified as "severe".

The BAAQMD adopted the Bay Area 1991 Clean Air Plan (CAP) on October 30, 1991. The 1991 CAP is based upon stationary source and mobile source (vehicles) control measures to reduce emissions. Stationary source measures include 15 improved rules for surface coatings (paints), three new surface coating rules, seven new or improved rules for fuel storage and distribution, seven new or improved rules for refineries and chemical plants, and eight new rules for control of fuel combustion emissions. Mobile source measures include employer-based trip reduction programs, mobility improvements (ferry, rail and bicycle facility improvements), revenue measures (bridge toll increase) and an indirect source review program (land uses attracting vehicle trips). The 1991 CAP predicted attainment of the State CO standard by 1995 and the Federal ozone standard by 1997. The 1991 CAP predicted that population exposure to ozone concentrations above the State standard would be reduced by 50 percent by 1994.

Amendments to the California Clean Air Act have changed the methods by which an area is classified for ozone and CO. Previously, classifications were based on the projected attainment

dates indicated in each district's air quality plans. Presently, classifications are based upon ambient air monitoring data. Ozone classifications are based on data from 1989 through 1991 and include "moderate", "serious," "severe" and "extreme" designations. CO classifications are based upon data from the 1989-1990 and 1990-1991 winter seasons and include "moderate" and "serious" designations. The Bay Area was re-classified in 1993 as serious for ozone (0.13 ppm) and as in attainment for CO.

Although the CCAA does not address PM_{10}, the control measures in the 1991 CAP will reduce PM_{10} by reducing vehicle trips and associated road dust, and by reducing emissions of precursors (NO_x). Section 40924 of the California Health and Safety Code requires the BAAQMD to prepare an update to the 1991 CAP, addressing progress towards attainment of the standards.

The Bay Area '94 Clean Air Plan (CAP) was adopted on December 21, 1994. The '94 CAP focuses on reducing ozone exposure by reducing emissions of ozone precursors (ROG and NO_x). ROG emissions were reduced by 3.2 percent per year and NO_x emissions were reduced by 1.7 percent per year over the planning period of 1987 to 1994. From 1994 through 1997, additional ozone precursor emissions will be achieved through:

- More stringent State and Federal programs affecting motor vehicles and associated emissions;
- More stringent controls on stationary sources;
- Reformulation of paints and other consumer products to reduce solvent (ROG) content;
- Programs to reduce motor vehicle use and traffic congestions.

The '94 CAP does not include a projected date of attainment of the State ozone standard. However, San Francisco County has not exceeded the State standard in recent years. The '94 CAP does not address CO, because the air basin was re-designated as attainment in November 1994.

Federal. The 1977 Amendments to the Federal Clean Air Act required each Air Pollution Control District to submit an Air Quality Management Plan (AQMP) for approval by Air Resources Board (ARB) and the United States Environmental Protection Agency (EPA). The goal of the AQMP was to reduce pollutant concentrations below the Federal standards. The BAAQMD, in association with the Association of Bay Area Governments and the Metropolitan Transportation Commission, prepared the *1982 Bay Area Quality Plan* (Plan) in response to the Federal Clean Air Act. The 1982 Plan predicted attainment of the ozone and carbon monoxide standards by December 31, 1987. The standards were not attained by that time. Emission reductions proposed in the 1991 CAP are expected to improve air quality such that the Federal ozone standard will be attained by 1997.

Section 181 of the Federal Clean Air Act (amended November 15, 1990) indicated that the San Francisco Bay Area Air Basin was a "marginal" ozone attainment area (0.121 to 0.138 ppm) and needed to attain the Federal ozone standard by November 15, 1993.

The Bay Area Air Basin attained the Federal ozone standard during 1990-1994. The BAAQMD applied to EPA to re-designate the Bay Area Air Basin as attainment for the Federal ozone standard. The re-designation was noticed in the Federal Register on September 28, 1994 and formally approved in May 1995.

3.4.2 Site Specific Setting

In light of the resources involved and the impacts under evaluation, no more precise data is available regarding specific sites under consideration. Therefore, the discussion of regional air quality in Section 3.4.1 above adequately characterizes the air quality of the alternative sites.

3.5 NOISE

This section addresses existing noise conditions from transportation and stationary noise sources. The noise analysis is based on information from the City of San Francisco Master Plan (1974) California Department of Health Services Office of Noise Control Guidelines (1976), noise sampling conducted by Fugro West, Inc. (April 1994), and traffic information prepared by Wilbur Smith Associates (April 1994).

3.5.1 Regional Setting

Characteristics of Noise

Noise impacts are generally defined as unwanted or objectional sound. Sound levels are usually measured and expressed in decibels (dB). Most sounds heard in the environment do not consist of a single frequency, but rather are a broad band of frequencies that differ in sound levels. The intensity of each frequency is combined to generate a particular sound. The method commonly used to quantify environmental sound consists of evaluating the frequencies of sound in accordance with a weighing system that reflects the fact that human hearing is less sensitive to low and extremely high frequencies than mid-range frequencies. This is called "A" weighing, and the decibel level measured is called the A-weighted sound level (dBA).

Noise levels are measured on a logarithmic scale because of physical characteristics associated with noise transmission and reception. A doubling of noise energy normally results in a 3.0 decibel increase in noise levels. Because of the structure of the human auditory system, a 10 decibel increase is required to perceive a doubling of sound levels. A 1- to 2-decibel change in ambient noise levels is generally not perceptible to sensitive receptors.

Noise levels diminish (or attenuate) as distance from the source increases based on an inverse square rule, but the rate constant varies with the type of sound source. Sound attenuates from point sources, such as an industrial facility, at a rate of 6 dB per doubling of distance. Heavily traveled roads with few gaps in traffic behave as continuous line sources with an attenuation rate of 3 dB per doubling of distance. Otherwise roads typically have an attenuation rate of 4.5 dB for ground-level observers.

The duration of noise and the time period at which it occurs are important factors in determining the impact of noise on sensitive land uses. Noise is more disturbing at night than during the day and noise indices have been developed to account for the varying duration of noise events over time as well as community response to them. The Community Noise Equivalent Level (CNEL) and the Day-Night Average Level (DNL or Ldn) are such indices. They are time-weighted average values based on the equivalent sound level (Leq), which is a constant sound level that equals the same amount of acoustic energy as actual time-varying sound over a particular time period. The CNEL penalizes noise levels during the night (10 p.m. to 7 a.m.) by 10 dB to account for increased sensitivity of people to noise after dark. Evening noise levels (7 p.m to

10 p.m.) are penalized 5 dB by the CNEL. Appropriately weighted hourly Leqs are then combined over a 24-hour period to result in a CNEL. The Ldn also penalizes nighttime levels, but does not penalize evening levels. These two indices are generally equivalent.

People are subject to a multitude of sounds in the urban environment. Typical noise levels of indoor/outdoor environments and public response to these sounds are illustrated on Figure 3.5-1. Many of these sounds are by-products of desirable and necessary activities. However, several sounds such as the thunder of a jet aircraft, and roar of an automobile engine are not desirable. Excessive noise cannot only be undesirable but may also cause some physical and/or psychological damage. The amount of annoyance or damage caused by noise is dependent primarily upon three factors: the amount and nature of the noise, the amount of ambient noise present before the intruding noise, and the activity of the person working or living in the noise source area.

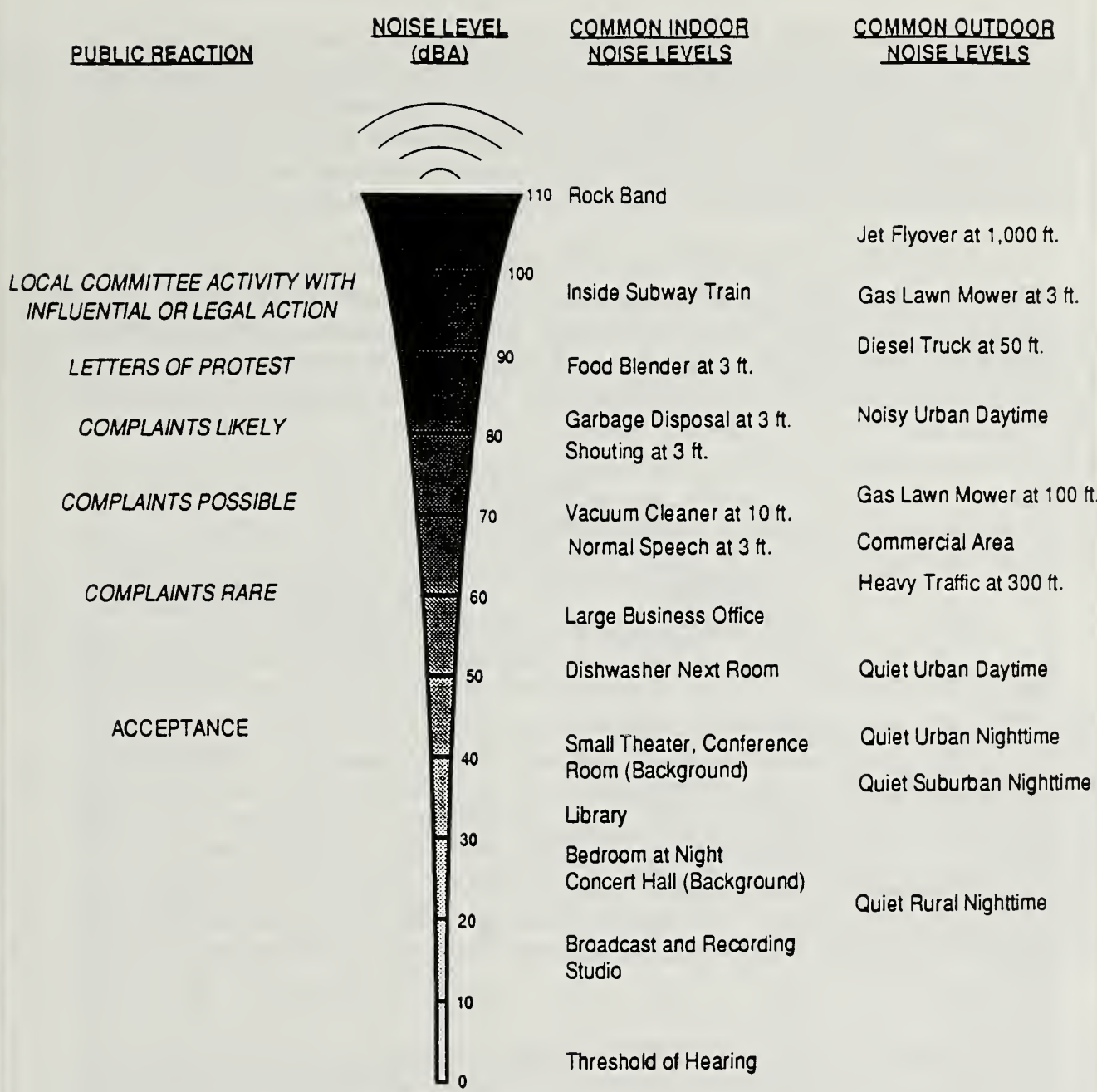
One of the major obstacles in determining appropriate maximum noise levels is relating noise exposure to public health and welfare. Although there has been some dispute within the scientific community regarding the detrimental effects of noise, a number of general conclusions have been reached:

- Noise of sufficient intensity can cause irreversible hearing damage;
- Noise can produce physiological changes in humans and animals;
- Noise can interfere with speech and other communication; and
- Noise can be a major source of annoyance by disturbing sleep, rest, and relaxation.

Noise sensitive land uses are defined by the California Department of Health, Office of Noise Control. Such uses generally include residences, transient lodging, schools, hospitals, nursing homes, churches, meeting halls, libraries, and mortuaries.

Central Business District Noise Sources

Noise within the CBD can be characterized in terms of relatively steady "background" noise levels upon which "intrusive" (i.e, intermittent) noise stands out clearly from the background noise. Major background noise sources within the downtown San Francisco CBD and vicinity include motor vehicles on major thoroughfares and Interstate 80 and U.S. Highway 101; heavy-duty truck loading and unloading; and miscellaneous heavy equipment and machinery operation. Sources of intrusive noise within the area of the project sites include honking horns, some types of industrial process noise, accelerating buses and trucks, and many other miscellaneous sources. According to the City of San Francisco Master Plan, the entire downtown CBD currently experiences noise levels in excess of 65 dBA Ldn.



SOURCE: Caltrans Noise Manual, California Department of Transportation, March, 1980.

COMMON NOISE LEVELS AND PUBLIC REACTION

SAN FRANCISCO FEDERAL BUILDING
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Figure 3.5-1

3.5.2 Site-Specific Setting

Ambient noise measurements were conducted by Fugro West, Inc. with a Bruel & Kjaer Type 2222 Sound Level Meter at various locations on and in the vicinity of the Tenth and Market and Seventh and Mission Alternative sites during the peak hour period (4:00 pm to 6:00 pm) in April 1994. Results of the noise sampling are discussed under each alternative. These noise measurements are short-term Leqs (20 minute samples) that reflect the actual conditions on one particular day at the monitored locations. Actual long-term conditions may vary considerably.

Noise levels from existing traffic within the area of the project sites was modeled to estimate existing Ldn and peak hour noise exposure levels. The results of traffic noise modeling are presented within Table 3.5-1. Because traffic is the major source of noise in the area of the project sites, the peak-hour values are good indicators of maximum one-hour average noise levels along street corridors in the CBD, while the Ldn is an indicator of the 24-hour average.

Table 3.5-1
1994 Traffic Noise Levels

Location[a]	Noise Levels at 50 feet (dBA)[b]		Distance to Ldn Noise Contour, feet[b]		
	Ldn 24 hr. avg.	Peak Hour Max.	70 dBA	65 dBA	60 dBA
Market St.[c]					
e/o Tenth St.	66.5	64.7	29	63	137
w/o Tenth St.	67.6	67.0	35	75	161
Van Ness Avenue					
s/o Market St.	72.2	71.3	70	151	325
s/o Grove St.	72.5	71.9	74	159	342
Seventh St.					
s/o Market St.	67.2	66.6	33	73	151
Eighth St.					
s/o Market St.	68.5	67.9	40	86	184
Ninth St.					
s/o Market St.	70.7	69.9	54	116	250
Tenth St.					
s/o Market St.	68.6	68.0	41	87	188
Mission St.[c]					
e/o Seventh St.	66.7	66.1	30	65	140
w/o Seventh St.	66.0	65.4	27	58	125

Vehicle Noise Emission Source:
U.S. Federal Highway Administration STAMINA 2.0.

[a] w/o = west of; e/o - east of; n/o = north of; s/o = south of
[b] All distances from roadway centerline
[c] Based on Wilbur Smith Associates Existing Peak Hour Link Volumes
* Peak hour periods are between 7:00 am to 9:00 am and 4:00 pm to 6:00 pm.

A. Tenth and Market Alternative

Noise within the proximity of the Tenth and Market Alternative site is attributed to traffic on Tenth Street to the east, Market Street to north, and Mission Street to the south. Short-term daytime noise measurements taken on the northeast corner of the Tenth and Market Alternative site approximately 30 feet west of Tenth Street yielded an Leq of 69.8 dBA. An additional measurement conducted on the northwest corner of the site 15 feet south of Tenth Street and 15 feet west of Mission Street yielded an Leq of 68.2 dBA. In general, the existing noise levels onsite are typical of urban and commercial type land uses (refer to Figure 3.5-1).

Land uses surrounding the site consist of multi-level retail and office type uses to the north across Market Street and to the east across Tenth Street. The Fox Plaza, a residential high-rise, is located to the northeast of the site. A parking lot and retail and office type land uses exist to the south across Mission Street, with residential land uses abutting Mission Street directly south of the project site. Adjacent to the site on the west is the Bank of America Data Center and associated uses. With the exception of the residential land uses on Mission Street, none of these land uses are defined as a noise sensitive use. While residential uses are generally considered sensitive according to the California Department of Health, Office of Noise Control, residences in the City may be subject to greater acceptable noise levels due to their location in an urbanized setting.

B. Seventh and Mission Alternative

Noise within the proximity of the Seventh and Mission Alternative Site is attributed to traffic on Seventh Street to the east, Market Street and Stevenson Street to the north, and Mission Street to the south. Short-term daytime noise measurements taken on the corner of the Seventh and Mission Alternative Site approximately 20 feet south of Stevenson Street and 20 feet east of Seventh Street yielded an Leq of 69.6 dBA. An additional measurement conducted on the corner of the site approximately 10 feet east of Seventh Street and 10 feet north of Mission Street yielded an Leq of 68.6 dBA. In general, the existing noise levels onsite are consistent with those monitored on the Tenth and Market site and are typical for office and commercial type land uses (refer to Figure 3.5-1).

Land uses surrounding the Seventh and Mission Alternative Site consist of retail and office uses to the northwest across Stevenson Street and to the north-northeast across Seventh Street. On the northwest corner of the Seventh and Mission Alternative Site is a temporary transient sleeping area. Additional retail and commercial type land uses are located directly south across Mission Street. Adjacent to the Seventh and Mission Alternative site on the west property boundary are residential land uses. With the exception of this land use, none of these uses are defined as noise sensitive. While residential uses are generally considered sensitive according to the California Department of Health, Office of Noise Control, residences in the City may be subject to greater acceptable noise levels due to their location in an urbanized setting.

C. Purchase Alternative

The General Services Administration could purchase an existing structure within the Civic Center Area or the Central Business District, but the exact location of a purchasable structure is undetermined. Given the general location, noise sources and existing traffic noise levels within the area of the structure are likely to be consistent with those described under the regional setting and presented within Table 3.5-1.

D. Lease Alternative

The General Services Administration could also lease an existing structure or structures within the Central Business District. The exact location of a leasable structure is undetermined. Noise sources and existing traffic noise levels within the area of the structure, however, are likely to be consistent with those described under the regional setting and presented within Table 3.5-1.

E. No Action Alternative

Under the No Action alternative, the City of San Francisco would retain possession of the proposed project site, and no federal building would be constructed. Federal agencies would continue to be housed in government owned and leased space. Implementation of the No Action Alterative would not result in a modification of existing noise levels.

3.6 NATURAL OR DEPLETABLE RESOURCES

3.6.1 Regional Setting

Natural or depletable resources including aggregate materials used for building construction; coal, uranium and other resources used to generate electrical power; natural gas used for heating and cooling; and fossil fuels used in manufacturing gasoline for vehicle operation. The only significant mineral resources within the San Francisco area are aggregate deposits. The City and County of San Francisco is primarily an urbanized area covered with buildings and pavement. Non-urbanized portions of any Mineral Resource Zones (MRZs) are candidates for mining activities in accordance with State Mining and Geology Board criteria. The Board's economic and social criteria excludes mining in urban, commercial and industrial areas. Aggregate materials, coal, and uranium are not mined in the San Francisco urban area.

Natural gas service within the San Francisco Bay area is supplied by the Pacific Gas and Electric Company (PG&E), an investor-owned public facility that is responsible for the transmission and distribution of gas to much of northern and central California. The majority (52 percent) of the natural gas that PG&E delivers to its customers is derived from sources in Canada. California sources account for approximately 10 percent of supplies while the balance of supplies is from sources in Texas, New Mexico, and Colorado.

In 1994, California's 17 million automobiles consumed more than 13 billion gallons of gasoline, making the state the third largest consumer of gasoline in the world. Only the United States as a whole and the former Soviet Union consumed more gasoline at that time. The statewide consumption of gasoline for transportation accounts for three-quarters of all petroleum consumed in California.

Average motor vehicle fuel economy has improved dramatically over the past 20 years. However, increases in the number of vehicle miles traveled in the state have more than offset the strides made in fuel economy. Caltrans estimates that vehicle miles traveled (VMT) are growing at more than twice the rate of the population growth (5 percent vs 2 percent). Therefore, not only are more people driving in the state each year, but people are, on average, driving more. If there are no major shifts in land use patterns or modes of travel, Caltrans estimates that VMT will increase by 51 percent by 2005.

Primarily in response to the contribution of energy consumption to the degradation of air quality, there has recently been increased interest in reducing transportation-related energy consumption. In the San Francisco City and County region, the Bay Area Air Quality Management District (BAAQMD) has adopted various transportation demand management (TDM) measures designed to reduce energy consumption and associated air emissions by reducing reliance on the drive-alone automobile. Although the primary intent of these measures is to reduce air pollutant emissions, they would also have the benefit of reducing energy consumption.

3.6.2 Site-Specific Setting

The alternative sites under consideration are located in an urban area. As such, they are not suitable for mining or other forms of resource extraction. No natural or depletable resources, which would be economically viable for development, are known to exist at the Tenth and Market or Seventh and Mission Alternative sites, or at other sites in the City available for purchase or lease.

3.7 LAND USE CONSISTENCY

This section describes the current land uses in the area of the identified alternatives for the project. It also discusses relevant plans, policies and regulations for land use in the area. Most cities in California are required to have consistency between their general plan and any land use regulation or action. San Francisco, as a charter city, is not bound by this rule. Nevertheless, the policies contained in the general plan documents serve as guides to regulation.

3.7.1 Regional Setting

Existing Development and Land Use

The City and County of San Francisco has a population of approximately 751,700 (as of January 1, 1994) and an area of about 46 square miles (Department of Finance, May, 1994). Much of San Francisco is urban in nature. The city was largely rebuilt early this century following the earthquake and fire of 1906.

Land Use Plans

A. City of San Francisco Master Plan

The City of San Francisco Master Plan guides development within the City and County of San Francisco. This is the general plan for the City. The Plan contains a number of area plans including those for the Civic Center and Downtown areas, both relevant to this project. The Plan also contains the statutorily required elements for such plans. These elements, and the policies they contain, have been referred to in this and other sections of the EIS/EIR. The primary objective of the Plan is to establish objectives and policies to guide development within the City. The Plan contains a Residence Element, a Commerce and Industry Element, a Transportation Element, a Recreation and Open Space Element, a Community Facilities Element, Urban Design Element, and others. San Francisco is a charter city and is not bound by the rule that its zoning be consistent with its general plan.

B. Downtown Plan

Part of the Master Plan, the Downtown Plan describes the area containing the two identified alternative sites for the project location. The plan acknowledges the area's predominant development as office space: "The proposed policies and actions in this Plan are aimed at eliminating, reducing, or controlling the negative effects brought about by further accommodation of downtown office space." (San Francisco Master Plan, page II.1.4)

C. Civic Center Plan

An Area Plan of the Master Plan, the Civic Center Plan describes the area roughly north of Market between Franklin and Leavenworth. This area serves as the symbolic and ceremonial focus of the City, and is the city center for government offices and cultural activities. The Civic Center Plan sets forth the City's policies regarding, among other activities, the location of government services. The federal building, which would house such government services, must be discussed in relation to the policies in this plan.

D. Civic Center Study

While this is not an adopted policy or regulatory document in its present state, it embodies the Department of City Planning's current understanding and planning for development in the area containing the identified alternative sites. It is included here because it reflects upon the proposed land uses of the areas containing the alternative sites and discusses the proposed federal building.

E. South of Market Earthquake Recovery Project

The South Market Earthquake Recovery Projects Redevelopment Plan was adopted on June 11, 1990, some 8 months after the October 1989 Loma Prieta earthquake. The project area comprises 62.4 acres. The plan was adopted under the provisions of the California Community Redevelopment Law and the Disaster Project Law which provides the ability to solely repair, restore, and or replace buildings and physical infrastructure damaged by the earthquake and to provide economic development assistance to neighborhood serving businesses. These plan implementations limitations have reduced the ability of the agency to pursue owner participation and other activities normal to a conventional redevelopment plan. However, within these constraints the agency, in conjunction with the South of Market Problem Solving Council, which serves as the project's Citizens Advisory Committee, has initiated a number of activities in the areas of housing, economic development, public infrastructure improvements, community organization and community outreach. It should be noted that the implementation of projected activities anticipates amending the present redevelopment plan to a conventional redevelopment project plan in order to achieve project objectives. The project is the subject of an EIR to be published in Spring of 1996.

F. Mid-Market Survey Area

The Mid-Market area represents a corridor between the retail core of the City and the Civic/Government Center. The corridor runs along both sides of Market Street from Fourth Street to just past the elevated Central Freeway. Mid-Market has been long-plagued by chronic economic disinvestment, unemployment and a large homeless population. Here the redevelopment process offers an opportunity to utilize its broad powers to stimulate economic growth (and improve the quality of life for community residents and the City at large).

G. City Planning Code

The Code contains the zoning ordinances for San Francisco that implements the goals and policies of the Master Plan (though, as stated earlier, the City is not bound by the consistency rule). It is part of the City and County of San Francisco Municipal Code. San Francisco is a charter city, therefore it is generally not subject to the State Zoning Law. The code sets forth many requirements governing use and dimensions of structures. Certain sections merit elaboration here and are described below.

The City must count the proposed office space against the maximum annual limit of development according to Planning Code Section 321 (a) (2) (c), Office Development (Annual Limit).

Both of the identified alternative sites for new construction are located in the C-3-G (Downtown General Commercial) zoning use district. The Planning Code sets forth various Height and Bulk districts, and these are shown in the zoning maps. The districts are described by a number and a letter. The number equals the maximum height of the building. The letter corresponds to bulk limits of buildings above a specified height. The majority of the parcels at the identified sites are in an S district. The S designation provides a complex methodology for limiting the bulk of the building at various heights. It is set forth in Section 270 (d) of the Planning Code. The objective of the regulation is to taper a building as it gains height, thereby reducing the imposition of the bulk of the building upon the skyline, and the resulting impacts on wind, shadow and urban design. The requirements describe three sections of the building; the base, lower tower and upper tower. The base, or lowest portion of the building cannot exceed 1.25 times the width of the abutting street or 50 feet, whichever is higher. The lower and upper towers are governed by a chart depicting ratios of building height to maximum building dimensions.

Special exceptions to bulk requirements in the C-3 districts are allowed under with Section 272 of the Planning Code. The section allows flexibility in the bulk requirements to accommodate special situations created by design, location or function.

The base floor area ratio allowed in C-3-G districts is 6:1, meaning that the gross square footage of the building cannot exceed six times the square footage of the lot. Special setback rules for taller buildings apply in the C-3 districts and are governed by Section 132.1 of the Planning Code. These setbacks are to avoid the perception of overwhelming mass and to provide separation between building towers.

Building height may be further restricted in San Francisco by Section 295 of the Planning Code, commonly referred to as Proposition K, or the sunlight ordinance. This section prohibits the issuance of building permits for structures that would shade property under the jurisdiction of or designated for acquisition by the Recreation and Park Commission, unless the City Planning and Recreation and Park Commission determines that the impact of such shadow would be insignificant. There are several such properties located in and near the Civic Center. Additional

building size restrictions for the purpose of reducing shadow impacts on open spaces are set forth in Section 147 of the Planning Code. This section places restrictions on new development in the C-3 zoning districts. These sections are discussed in greater detail in Section 3.9, Aesthetic/Visual Resources.

Another potential control on building mass is set forth in Section 148, Reduction of Ground-Level Wind Currents in C-3 Districts. This section restricts buildings whose size or shape would create or intensify winds beyond an established seating and pedestrian comfort criteria. This ordinance is the basis for the wind tunnel study performed and described in Section 3.14, Wind of this EIS/EIR.

Downtown projects are subject to a number of "linkage" requirements, whereby they are required to dedicate land or pay fees (generally based upon square footage of the project) in order to assist in the accomplishment of several city projects. These include open space, parks, art, transportation brokerage, employment brokerage, child care brokerage, transit services, schools and affordable housing. The federal government is exempt from these requirements. These requirements are set forth in the city's Planning Code.

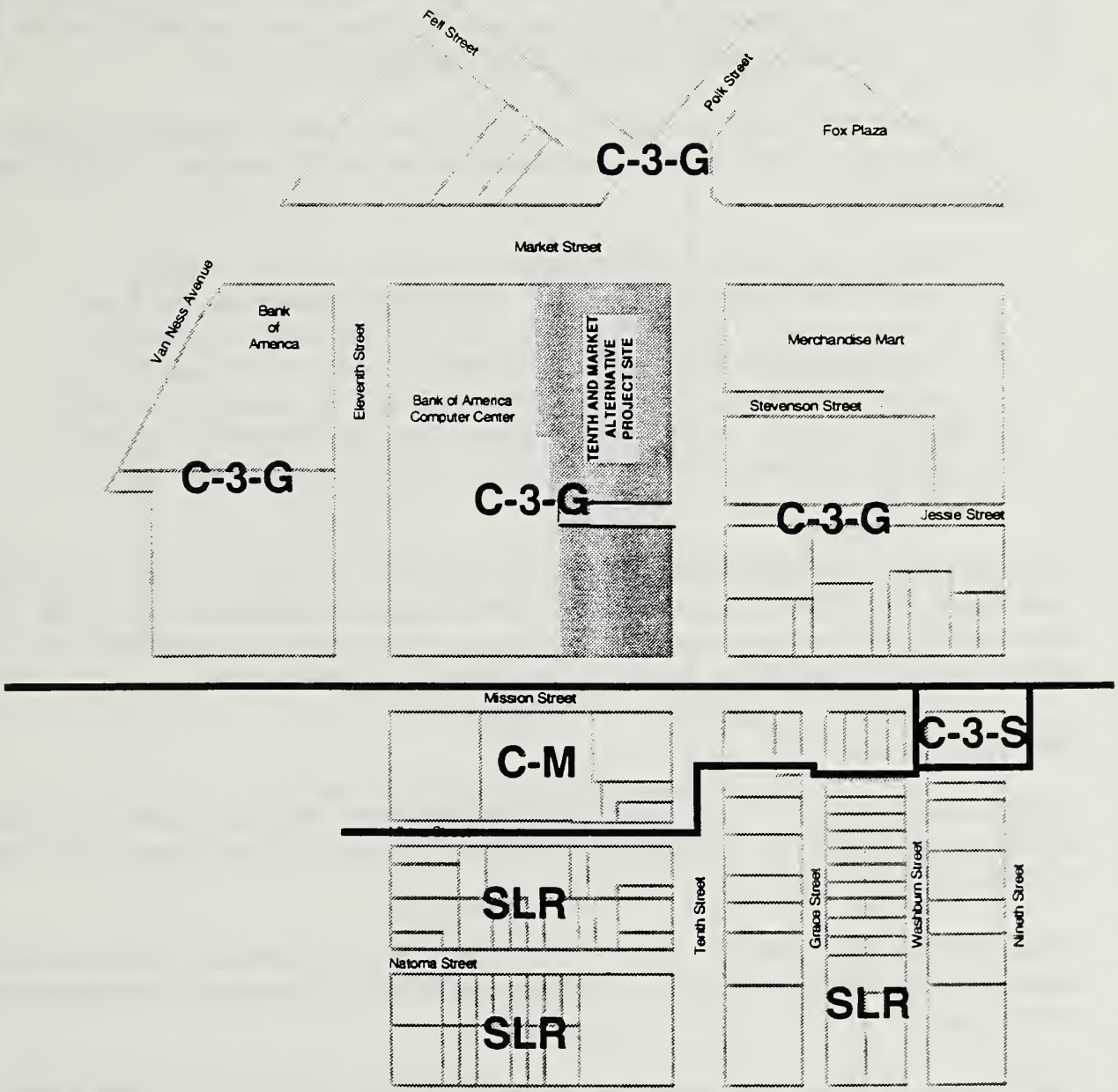
3.7.2 Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is a parcel currently owned by Bank of America and occupies the eastern half of the block surrounded by Market, Tenth, Mission and Eleventh Streets. Bank of America would sell this site to the San Francisco Redevelopment Agency (SFRA), who would subsequently transfer the site to GSA.

The site is occupied by several buildings, including a four-story structure fronting Market Street that contains various businesses and retail shops. Several older buildings (attached) built between 1929 and 1935 are located midblock between Market and Mission Streets. These are currently vacant. The businesses and retail shops along Market Street would require relocation, after which the buildings would be demolished. The southern remainder of the site is a vacant former service station and car wash. These structures would also be demolished to accommodate construction of the new building.

The site is surrounded by a variety of uses (see Figure 3.7-1). To the east, across Tenth Street, is the Merchandise Mart, a wholesaler's showroom. South of the site, across Mission Street, are residential hotels and an auto repair facility. Across Market Street to the north are large buildings, including the Fox Plaza and mixed use development (retail, office and residential), while to the west of the site on the same block is the Bank of America Data Center. Many of the buildings are described more fully in Section 3.10, "Historic Resources."



LEGEND

C-3-G	Downtown General Commercial District
C-3-S	Downtown Support District
C-M	Heavy Commercial District
SLR	Service/Light Industrial/Residential District

0' 200'

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TENTH AND MARKET ALTERNATIVE ZONING DISTRICTS

Figure 3.7-1

The Civic Center core lies two blocks to the north of the site. The Civic Center contains the City's greatest concentration of cultural and government facilities.

The Tenth and Market Alternative site is zoned C-3-G, or Downtown General Commercial (see Figure 3.7-2). Uses allowed in this district include office, hotel, residential, service and commercial. The Planning Code describes this zoning district as follows:

> *This district covers the western portions of downtown and is composed of a variety of uses: Retail, offices, hotels, entertainment, clubs and institutions, and high density residential.*
>
> *Many of these uses have a citywide or regional function, although the intensity of development is lower here than in the downtown core area. As in the case of other downtown districts, no off-street parking is required for individual commercial buildings, but in portions of this district automobile parking is a major land use, serving this district and the adjacent office and retail core areas. In the vicinity of Market Street, the configuration of this district reflects easy accessibility by rapid transit. [Planning Code, Section 210.3]*

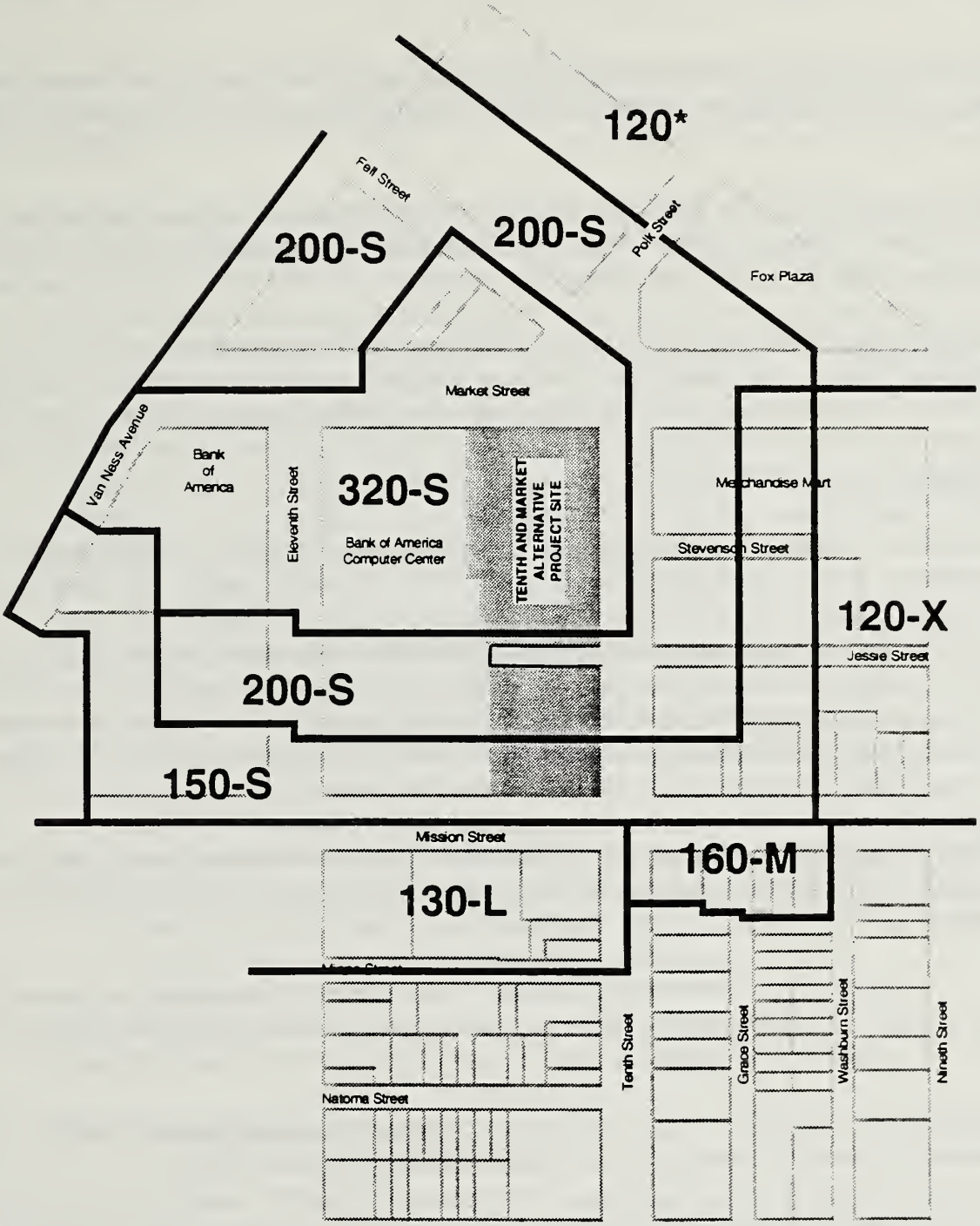
The project site is governed by three height and bulk districts. The first is 320-S, which extends from Market Street south to approximately halfway through the site (see Figure 3.7-2). The second is 200-S, extending another quarter of the distance south through the site. The 150-S district covers the southernmost portion of the site south to Mission Street.

Plans and Policies

The San Francisco Master Plan elements include two area plans specifically relevant to the Tenth and Market alternative site. These are the Downtown Plan and the Civic Center Plan. These are discussed below.

Downtown Plan. The Downtown Plan land use designation for the Tenth and Market alternative site is Downtown General Commercial. The proposed federal building would be consistent with this designation.

The Downtown Plan sets forth numerous policies with regard to future development within its planning area. It recognizes the area as the central core of business activity for the City. Office space is the primary product of downtown businesses. The Tenth and Market alternative is located in the Downtown area, but it is many blocks removed from the central business core. If this project were a commercial venture, it would not necessarily be consistent with Policy 2 of Objective 2 for office space, which would "guide location of office development to maintain a compact downtown core and minimize displacement of other uses."



LEGEND

Height Limit in Feet

200-S

Bulk Limits in City Planning Code

HEIGHT & BULK

- **L** 80 Ft.
- **M** 100 Ft.
- **S** Refer to Planning Code § 270 (d)
- **X** Refer to Planning Code § 260 (a)3

0' 200'

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TENTH AND MARKET ALTERNATIVE HEIGHT AND BULK DISTRICTS

Figure 3.7-2

The Tenth and Market location was chosen because of its proximity to the Civic Center. The plan for the Civic Center is more relevant for analysis of land use consistency, given the governmental function of the building.

Civic Center Plan. The Tenth and Market Alternative site is located on the periphery of the Civic Center (it is within the 1994 Civic Center Study area boundary). Several objectives and policies contained in the Civic Center Plan are relevant to the Federal Building proposal.

The Civic Center Plan contains the City's policies regarding government activities in and near the Civic Center. The primary objective is to keep all government activity in or near the Civic Center. Those functions requiring high levels of interaction and public use should be located within the Civic Center and other government activities should be located within a "sphere of influence" of the Civic Center.

The federal building proposal does not contain activities which generate substantial public interaction. The Civic Center policy for such buildings states in part in Objective 2:

> *Develop the civic center as a cohesive area for the administrative functions of City, State and Federal government. . . (T)hose Federal, State and City agencies providing basic governmental services (such as tax collection and permit processing), and particularly those agencies intensively used by the public, should be located in the Civic Center to facilitate public access and convenience.*

Government functions with low public interaction should nevertheless be near other operations from the same branch or level of government, according to Policy 3 of Objective 2, which states:

> *Encourage governmental activities of each level of government to locate within a "sphere of influence" within the Civic Center to avoid inefficient dispersal of these activities throughout the area.*

The purpose of the new federal building is to house executive branch agencies which are currently dispersed in rental and other federal space throughout the City.

Policy 4 of Objective 2 states:

> *Encourage administrative-oriented governmental functions (executive, legislative, and judicial) to locate in new consolidated facilities rather than being dispersed throughout the adjacent area in leased or rented quarters.*

The new federal building would be consistent with these objectives, consolidating several federal executive agencies into one federally-owned building. The objective of the proposal is to locate the new federal building within two blocks of the Civic Center.

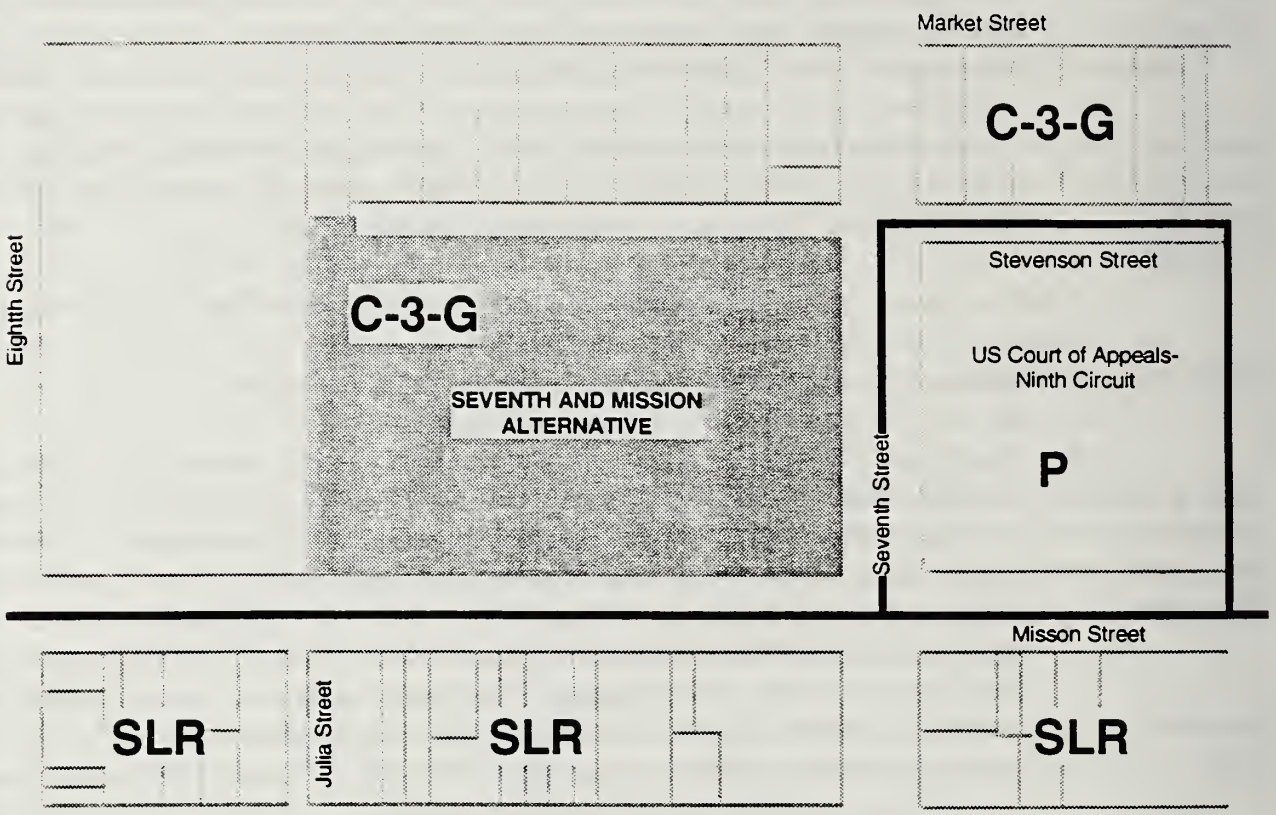
Civic Center Study. The Civic Center Study Area includes the Tenth and Market Alternative site. The Development Program for Subarea 2 makes specific reference to the proposed new federal building:

> a. *Most of the blocks facing Market Street within this area are fully developed with the exception of the 10th and Market Street site proposed for a federal office building. . . Wind tunnel studies should be conducted early-on in the building design process of any building greater than 50 feet proposed within this subarea. The building form and orientation should be designed to minimize shadow and wind impacts on the Market Street sidewalk space, the State Compensation building plaza, Civic Center Plaza and U. N. Plaza. . .*
>
> Extensive wind tunnel tests were conducted for this site. They are discussed in Sections 3.14 and 4.14. The objective of the testing was to find a building configuration that minimized additional wind impacts to the area.
>
> b. *The ground floor space facing Market Street in the new federal office building should provide pedestrian-oriented retail uses. Should retail uses not be feasible in a government building, ground floor space should be designed to feature pedestrian-level clear glass and ground floor uses should feature agencies with high volumes of public contact or retail-types of activities like a government book store and food service. Cafeterias should be discouraged in new government buildings as a means of encouraging government workers to support nearby food businesses. However, if a cafeteria is determined to be necessary within the building, it should be provided at the Market Street and/or 10th Street ground floor frontage(s), should be independently accessible and open to the public, and should serve breakfast, lunch and dinner weekdays.*
>
> The federal government's objective is to provide ground floor activities in general conformance to the stated Civic Center Study objectives.

B. Seventh and Mission Alternative

The Seventh and Mission Alternative site occupies the southeast portion of the block surrounded by Market, Seventh, Mission and Eighth Streets. It was once the location of the Greyhound Bus depot. Most of the site is vacant or used for parking (see Figure 3.7-3). Two buildings, four stories high, are located on the eastern portion of the site. These were residential hotels, currently boarded up and vacant. Both buildings were built in 1907; the southern one is known as the St. Raphael Hotel. The buildings remaining on the site are discussed in Section 3.10, Historic Resources.

North of the site are several multi-story buildings fronting Market Street. Generally, the buildings on the western portion of the Market Street frontage are relatively new (1960, 1980



LEGEND

C-3-G	Downtown General Commercial District
P	Public District
SLR	Service/Light Industrial/Residential

0' 250'

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SEVENTH AND MISSION ALTERNATIVE ZONING DISTRICTS

Figure 3.7-3

and 1985) and range from eight to fourteen stories. On the eastern half of the frontage, the buildings are older (1906 through 1923) and are five to six stories tall. They contain a variety of retail, commercial and hotel services.

To the south of the site, across Mission, are buildings between four and six stories containing various retail, commercial and service uses. Across Seventh Street, to the east, is the former U.S. Post Office and Court House (now called the U.S. Court of Appeals, Ninth Circuit), built between 1897 and 1905. Considerable discussion is given to this important building in Section 4.10, Historic Resources. To the west of the site, on the same block, is the Town House Motel, occupying the Eighth Street frontage between Market and Mission with a parking lot.

The Seventh and Mission Alternative site, like the Tenth and Market Alternative, is zoned C-3-G, or Downtown General Commercial). Therefore, the uses and restrictions on the site are the same.

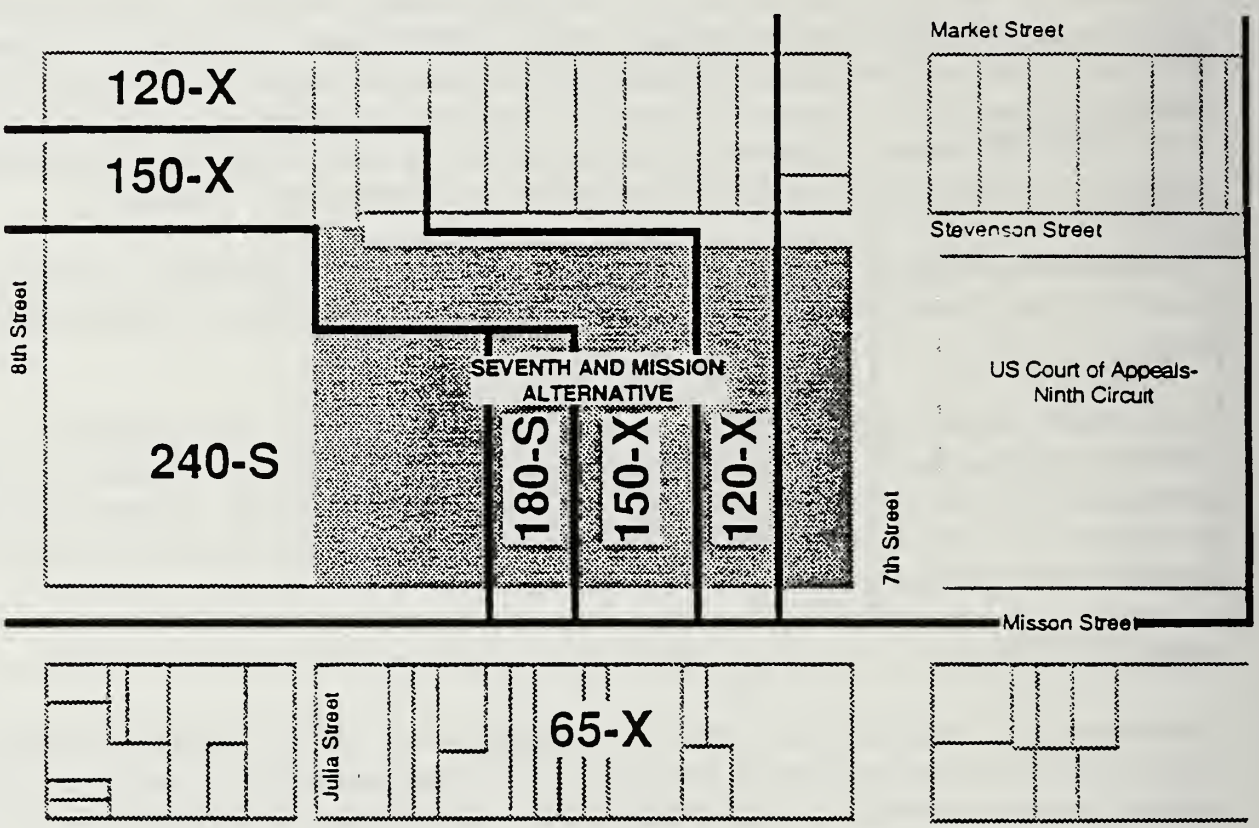
Four different height and bulk districts govern the site (see Figure 3.7-4). Beginning at the eastern boundary of the site, the first district is 90-X. Any district with the X designation is not governed by the bulk limits set forth in Section 272 of the Planning Code. Moving from east to west across the site, the next districts are 120-X, 150-X, 180-S and 240-S (see discussion of S districts under the Tenth and Market Alternative).

Plans and Policies

Downtown Plan. The Downtown Plan land use designation for the Seventh and Mission alternative site is Downtown General Commercial. As noted previously, the proposed federal building would be consistent with the designation. The discussion of consistency with the Downtown Plan for the Seventh and Mission Alternative is the same for the Tenth and Market Alternative. This site would be located closer to the downtown core.

Civic Center Plan. The Seventh and Mission Alternative site is located on the periphery of the Civic Center. Several objectives and policies contained in the Civic Center Plan are relevant to the federal building proposal. The discussion and finding of consistency would be the same as with the Tenth and Market Alternative.

The Seventh and Mission location is close to two other federal buildings; the old Post Office, U.S. Court of Appeals, Ninth Circuit, and the old federal office building at United Nations Plaza. Locating near these buildings would be consistent with Policy 3 of Objective 2 of the Civic Center Plan by enhancing interaction between government offices and increasing the convenience and efficiency of government facilities by having each governmental level located in clusters.



LEGEND

Height Limit in Feet

200-S

Bulk Limits in City Planning Code

HEIGHT & BULK

L	80 FL
M	100 FL
S	Refer to Planning Code § 270 (d)
X	Refer to Planning Code § 260 (a)3

0 250

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SEVENTH AND MISSION ALTERNATIVE HEIGHT AND BULK DISTRICTS

Figure 3.7-4

Civic Center Study. The study did not contemplate the development of the federal building at the Seventh and Mission Alternative site. It makes no specific reference to the site, but focuses its recommendations on Market Street properties.

C. Purchase Alternative

This alternative would involve the purchase of an existing building in the Central Business District of San Francisco. No specific location was determined, therefore applicable plans and policies cannot be described. However, as an existing building, it would have already been approved subject to relevant plans and policies.

D. Lease Alternative

This alternative involves the leasing of large blocks of office space to accommodate federal agencies. No specific location was determined, therefore applicable plans and policies cannot be described. However, as an existing building, it would have already been approved subject to relevant plans and policies.

E. No Action Alternative

Under the No Action Alternative, the proposed project site would not be conveyed to GSA. Bank of America had preliminary plans in the mid-1970s to develop the site in a similar manner as its adjacent parcel, the Bank of America Data Center. The Bank of America abandoned the second data center concept. It is not known what would be developed on the parcel should the site not be used for the federal building.

3.8 SOCIOECONOMICS AND THE REAL ESTATE MARKET

This section describes existing regional socioeconomic conditions in the San Francisco Bay Area, as well as the current local conditions in the vicinity of the alternative sites.

3.8.1 Regional Setting

The San Francisco Bay Area encompasses nine counties totalling approximately 7,000 square miles. The nine counties within the Bay Area can be grouped into four subregions based upon geographic location and commute patterns. These include the North Bay (Marin, Sonoma, Napa, and Solano counties), the East Bay (Contra Costa and Alameda counties), the South Bay (Santa Clara and San Mateo counties), and San Francisco (city and county). GSA uses a five county commuter area for its planning purposes (Alameda, Contra Costa, Marin, San Mateo and San Francisco). Except when addressing federal planning issues, for this EIS/EIR, the nine-county region is used because of the large amount of information available from the Association of Bay Area Governments, which uses the nine county area in compiling its statistics.

Population and Housing

Population. Population trends in the Bay Area are shown in Table 3.8-1. As the table indicates, the region grew from a population of just over 4.6 million in 1970 to about 6.33 million in 1993. This represents a region-wide annual growth rate of about 1.4 percent over the 23-year period. Population growth has accelerated in recent years as the region has experienced a 1.7 percent annual growth rate since 1990. The overall growth rate is expected to slow to about 1.0 percent per year over the next 17 years. At that rate, the region's population would expand to over 7.5 million by 2010.

Table 3.8-1. Bay Area Population Trends (in thousands of people)

Subregion	1970	1980	1990	1993	2000	2010
North Bay	640	857	1,070	1,144	1,306	1,500
East Bay	1,632	1,762	2,083	2,192	2,382	2,652
South Bay	1,621	1,882	2,147	2,245	2,403	2,562
San Francisco	716	679	724	752	784	819
Total	4,608	5,180	6,024	6,333	6,875	7,533

Sources: San Francisco Department of City Planning, Commerce and Industry Inventory. July, 1993.
California Department of Finance, Population and Housing Estimates, May 1993.
Association of Bay Area Governments, Projections '94, December 1993.

The North Bay subregion has experienced the most rapid rate of population growth in the Bay Area since 1970, with an annual growth rate of 2.3 percent. That subregion is expected to continue to grow at a relatively rapid 1.6 percent per year to the year 2010. By contrast, the

City of San Francisco has experienced the lowest growth rate (0.2 percent) over the 23-year period. The City actually experienced a population decline during the 1970s, but has grown at a 0.8 percent annual rate since 1980.

With a current population of about 752,000 (Department of Finance, May, 1994), San Francisco is the least populated of the Bay Area subregions. However, as the City accounts for roughly 12 percent of the region's population with only about 1 percent of the land area, it is the most densely populated of the four subregions (with over 16,000 persons per square mile).

San Francisco's population is projected to grow by 0.5 percent annually over the next several years, which is only about half the rate at which the entire Bay Area would grow over the same period. This growth rate would bring the City's total population to 819,000 by 2010.

Housing. Housing growth trends in the Bay Area generally coincide with population growth (see Table 3.8-2). The region as a whole has experienced 1.5 percent annual growth since 1980, which is roughly equivalent to the population growth over the same period. The region's current stock of 2.4 million units is projected to grow by about 0.9 percent annually until the year 2010, bringing the total regional housing stock to nearly 2.8 million units.

Table 3.8-2. Bay Area Housing Stock Trends (in thousands of units)

Subregion	1980	1990	1993	2000	2010
North Bay	320	399	443	474	555
East Bay	668	780	840	879	990
South Bay	684	762	806	836	905
San Francisco	299	306	311	323	342
Total	1,971	2,246	2,400	2,512	2,792

Sources: California Department of Finance, Population and Housing Estimates, May 1993.
Association of Bay Area Governments, Projections '94, December 1993.
Note: Some totals do not add up exactly due to rounding.

As with population, housing growth has been, and is expected to continue to be, greatest in the North Bay subregion. Since 1980, the North Bay's housing stock has grown by 2.5 percent annually. Although the rate of growth is projected to slow to an average of 1.3 percent per year until 2010, the North Bay will continue to be the fastest growing subregion within the Bay Area.

San Francisco's housing stock, by comparison, has grown at an average rate of only 0.4 percent annually since 1980. Although housing development is expected to continue to average 0.4 percent (an average of 1,200 units per year until 2010), growth in the City's housing stock will continue to be slower than that of the region as a whole (City of San Francisco, written communication, February 3, 1995).

As of May 1993, about 116,000 housing units throughout the Bay Area were vacant. This represents a 4.8 percent region-wide vacancy rate (Department of Finance, May, 1993). Immediately after the 1989 Loma Prieta Earthquake, vacancy increased to 6.5% but has leveled off to about 5 percent. In the City of San Francisco, slightly more than 16,600 units were vacant in 1993. This represents a vacancy rate of 5 percent, which is somewhat higher than the region-wide rate (City of San Francisco, written communication, February 3, 1995).

Economic Activity/Employment

Employment Trends. Table 3.8-3 illustrates trends in the regional labor force and employment since 1970. At an average annual increase of 3.4 percent, the region's labor force grew more than twice as rapidly as did the regional population from 1970 to 1992. During this period, the labor force, as a proportion of the regional population, grew from 42 percent to 53 percent (San Francisco Department of City Planning, July 1993).

Table 3.8-3. Bay Area Labor Force and Employment Trends (in thousands of employees)

Labor Force	1970	1980	1990	1992
North Bay	241	406	559	575
East Bay	669	877	1,106	1,108
South Bay	686	1,017	1,215	1,203
San Francisco	340	365	408	402
Total	1,936	2,702	3,288	3,288
Employment	**1970**	**1980**	**1990**	**1992**
North Bay	101	275	382	381
East Bay	388	690	882	873
South Bay	444	937	1,118	1,096
San Francisco	375	549	559	527
Total	1,307	2,451	2,941	4,883

Sources: San Francisco Department of City Planning, Commerce and Industry Inventory, July 1995.

As shown in Table 3.8-3, region-wide employment in the Bay Area has more than doubled since 1970, despite a reduction in employment since 1990. The 125 percent increase in employment that has been experienced over the past 22 years far exceeds the 34 percent increase in population that occurred over the same period. However, total employment fell by 2.4 percent from 1990 to 1993 while the region's population grew by over 5 percent (San Francisco Department of City Planning, July 1993).

San Francisco has historically held a higher proportion of regional jobs than regional population. In 1970, 28.6 percent of region-wide jobs were concentrated in the City while only about 15.5

percent of the populace resided there. By 1992, the City's share of regional employment had dropped to 18.5 percent, but its share of the regional population had fallen to 11.7 percent.

The statistics above indicate that the prominence of San Francisco as a major economic center within the Bay Area has decreased since 1970. Nevertheless, the City remains the only subregion within the Bay Area whose employment base is larger than its labor force. This indicates that people continue to commute to San Francisco from other subregions and that regional economic activity is still concentrated in the City.

San Francisco's economic base has historically been, and continues to be, diverse. Office uses (such as finance, insurance, business and legal services) passed industrial activity (manufacturing, wholesale, construction, real estate) as the largest employer in the City around 1981. As of 1992, office uses continued to be the largest employer in the City, with over 170,000 jobs. Although industrial jobs have been in decline since about 1981, industrial activity continues to be the second largest employer in the City with about 120,000 jobs as of 1992. Jobs in the cultural/institutional sector (health and social services, education, recreation) have risen steadily since 1976 while jobs in the retail, government, and hotel sectors have remained relatively steady during that same period.

The general decline in employment levels since 1990 has reflected the national recession. The largest decline took place in office employment, the largest employment sector. About 22,000 office jobs were lost citywide between 1990 and 1992. The industrial, retail, and government sectors saw somewhat smaller job losses during this period. Within the office category, business services were the primary job losers. Wholesale and construction were the primary losers within the industrial category while apparel stores suffered the greatest job losses within the retail sector. Employment in the hotel sector remained relatively stable while the cultural/institutional sector has actually continued to gain jobs in the City during the 1990s.

Unemployment. Unemployment rates have risen throughout the state since the beginning of the current recession in 1990, although the rate of increase declined in 1993. However, the unemployment rate in the Bay Area was about 1.5 points lower than the statewide rate prior to the recession and over 2 points lower in 1993. San Francisco's unemployment rate has risen in conjunction with the overall rate for the Bay Area and the state since 1990 (California Economic Development Department, 1990-1993) but has remained slightly higher than the regional rate.

Office/Retail Space. The Iliff Thorn inventory of office space includes total space and vacancy rates for all buildings of 20,000 square feet or more in San Francisco's financial district and 10,000 square feet or more in surrounding areas that function primarily as offices. According to the Iliff Thorn inventory, there were about 63.4 million square feet of office space in the downtown area as of 1992. This amount represents a 24 percent increase over the 1986 total of about 51.2 million square feet.

Table 3.8-4 compares office vacancy rates for the greater downtown San Francisco area to the national downtown average office vacancy rate. As the table indicates, vacancy rates in San Francisco have consistently remained below the national average for downtown areas since 1986. While the national average vacancy rate has generally increased since 1986, the vacancy rate in downtown San Francisco has generally declined over the same period.

Vacancy rates increased throughout the recession and declined in 1994 and 1995. Proposition M office development limits have not been used over the past five years.

Table 3.8-4. Downtown and Vicinity Office Space Vacancy Rates: San Francisco and the U.S.

Year	Downtown San Francisco Area	National Downtown Average
1986	13.8	16.4
1987	14.2	17.2
1988	12.4	18.2
1989	12.4	18.6
1990	11.1	18.9
1991	10.0	18.9
1992	10.3	18.7

Besides office uses, the greater downtown San Francisco area currently contains retail shops and restaurants. Retail facilities within the downtown area employ primarily sales and service occupations (San Francisco Master Plan, Downtown Element, p. II.1.4). Downtown retail businesses serve residents, workers, and businesses. However, retail activity in the Market-Van Ness area primarily serves office workers in the Civic Center area and patrons of nearby performing arts facilities. Recent data suggests that there has been a slight decrease in the vacancy rates, but there have been no significant changes. (Miriam Chion, City Planning Dept. personal communication, April, 1996).

Federal and Local Economic Development Policies

Uniform Relocation Act. The relocation of people, businesses, institutions, or community facilities as a result of a project is termed "displacement". Under the *Uniform Relocation Assistance and Real Property Acquisition* 44 CFR 30946 set forth in September 1979, individuals or businesses who are forced to relocate due to real estate acquisition by a public agency may be entitled to certain payments and other assistance. It is anticipated that several businesses will be affected by the construction of the proposed Federal Building.

Executive Order 12898. In February of 1994, the President of the United States adopted Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority*

Populations and Low-Income Populations. This EO states that to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

Master Plan Commerce and Industry Element. The Commerce and Industry Element of the City of San Francisco Master Plan outlines the City's objectives related to the management of economic development within the City. Two of the Element's policies are directly relevant to the proposed federal office building, including the following:

- *Seek to retain existing commercial and industrial activity and to attract new such activity to the city.*
- *Promote San Francisco, particularly the civic center, as a location for local, regional, state and federal governmental functions.*

3.8.2 Site Specific Setting

A. Tenth and Market Alternative

Demographic Characteristics. The neighborhood of the Tenth and Mission Alternative is characterized by a relatively low-income minority population. The population of the census tract in which the site is located had a total population of 3,879 in 1990 (U.S. Census, 1990).[1] Approximately 38 percent of the population was white, while the remainder of the populace was comprised primarily of African Americans, Asians, and Hispanics. The median household income in the tract was $12,015 in 1990, which was only 26 percent of the citywide median of $45,664. Nearly 14 percent of the residents within the tract had incomes below the poverty level while the unemployment rate in the area was about 23 percent. Although the majority of the population resides in the eastern portion of the tract a few blocks east of the site, the basic demographic characteristics of the tract apply to the immediate vicinity of the project site, as well.

The majority of the tract's 1,735 housing units consist of residential hotels which cater primarily to transient populations. Most of these are located along the Mission Street corridor in the eastern portion of the tract between Fourth and Eighth Streets. About 65 percent of the units in the tract have no bedrooms while 25 percent lack complete plumbing (U.S. Census, 1990).

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[1] Census Tract 176.98 is roughly bounded by Market Street to the north, Fourth Street to the east, Howard Street to the south, and Eleventh Street to the west.

In addition, Fox Plaza is an apartment building located to the north across Market Street.
Local Business Activity. The site of the Tenth and Market Alternative is in a neighborhood characterized by a mix of office and retail uses. Retail uses predominate the first floors of structures, particularly along Market and Mission Streets. Offices are typically located above the first floor retail uses. The block in which the site is located contains several retail establishments, a Bank of America branch office, and other office buildings.

The areas to the south of the site contain a similar mix of uses, including low-end retail uses, a budget motel, and some small scale industrial uses (auto repair, print shops). To the north along Market Street are various ground-floor retail establishments that cater primarily to office workers along Market Street and at the nearby Civic Center.

B. Seventh and Mission Alternative

Demographic Characteristics. The Seventh and Mission Alternative site is located in the same census tract as the site of the Tenth and Market Alternative. Demographic characteristics are therefore similar. However, as stated above, the majority of residential hotels within the tract are located along the Mission Street corridor between Fourth and Eighth Streets. The immediate vicinity of the Seventh and Mission site is characterized by a more substantial population and more human activity on adjacent streets. The immediate area is also characterized by a substantial homeless population which includes several homeless encampments on the Seventh and Mission Alternative site itself.

Local Business Activity. The neighborhood in which the Seventh and Mission Alternative site is located contains a mix of residential (primarily residential hotels) and commercial uses. Areas adjacent to the site along Sixth and Seventh Streets primarily contain street-level low-end retail uses that serve the local population, such as convenience stores, liquor stores, and bars. Upper floors of some structures contain office uses but in most structures upper floors appear to be vacant.

To the north along Market Street are various first-floor retail uses with offices on upper floors. Establishments along Market Street in this area include a variety of types, ranging from restaurants to specialty retail and souvenir shops to adult businesses. Such establishments cater to tourists, local residents, and nearby office workers (including those at the nearby Civic Center).

C. Purchase Alternative

Demographic characteristics and specifics regarding local business activity cannot be discussed because a building has not been identified for purchase. However, purchasing an existing structure would not create any new office space. Federal jobs currently in the City would be retained. Local businesses in the vicinity of the purchased building may benefit from locating employees in the building.

D. Lease Alternative

As with the Purchase Alternative, specifics regarding demographic characteristics and local business activity cannot be determined until a lease space is selected. Socioeconomic conditions for the Lease Alternative, however, would be similar to those described for the Purchase Alternative.

E. No Action

Socioeconomic conditions in the City would not be affected by the No Action Alternative. The City of San Francisco would retain possession of the proposed project site and no federal building would be constructed. Federal agencies would continue to be housed in existing federally-owned space and commercial leased space.

3.9 AESTHETIC/VISUAL RESOURCES

In the built environment, the aesthetics and visual resources of a given location are related to definable characteristics of an area's urban design. These characteristics relate to the nature of the spaces defined by structures and built areas versus the pattern and quality of open spaces that frame the structures and built areas. Factors affecting this built space include building intensity, scale, surface materials of buildings and paved areas, street furniture, landscaping, and view corridors.

A. Tenth and Market Alternative

The Tenth and Market Alternative site is located within a highly urbanized setting with multistory structures and extensive paved areas. The immediate vicinity of the subject site is noteworthy for the three multi-story structures that are prominent on the San Francisco skyline in this part of the City. They include The Bank of America Data Center, Fox Plaza, and the AAA Building. They were developed during the 1960s and 1970s.

The site is bounded by three public streets and their rights-of-way and one existing large-scale development (Bank America Data Center). It also encompasses a discontinuous stub-out public street. On the north side is Market Street, the site's most visually sensitive frontage. Market Street, which can be considered San Francisco's "Main Street," is treated with major public improvements including wide, brick-paved sidewalks, extensive street tree plantings, and restored Beaux-Arts street lighting standards.

Tenth Street, a collector street running southerly from Market adjacent to the eastern frontage of the subject site, is a second right-of-way of high visual prominence relative to the subject site. The site is bisected by Jessie Street, a remnant local street. Mission Street runs along the southern frontage of the site. Mission Street is a major arterial serving the South of Market area, though most of the new development along the Mission Street corridor to date has occurred several blocks east of the subject site. To the west of the subject site is the rear facade of the Bank of America Data Center, a back-office complex prominent in the immediate project area. It features a 21-story tower at the corner of Market Street and Eleventh Street, and a building base that rises six levels for the entire block frontage between Market and Mission Streets. The Bank of America complex measures over 1.3 million gross square feet (GSF).

Figure 3.9-1 includes three views of the subject site: perspective from Van Ness Avenue and Market Street looking southeast, perspective from Fox Plaza across Market Street looking southwest, and from Mission and Tenth Streets, looking northwest. In the city-wide context, the immediate vicinity of the Tenth and Market alternative site is noteworthy for its proximity to the established Civic Center area, a multi-block district mostly north of Market Street. The Civic Center area includes several structures and public spaces of great importance in the City and region's public life, including City Hall, the Opera House, and the Main Library.

A

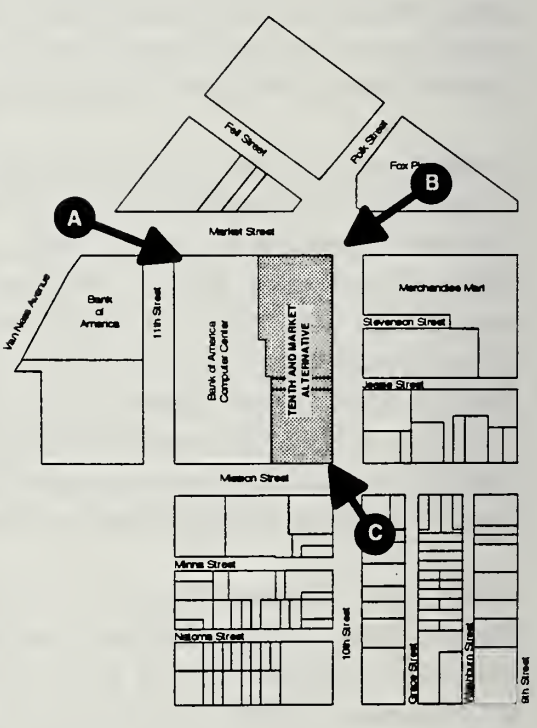
B

C

A View of the Bank of America data center from Van Ness and Market Streets. Project site is to left of data center.

B View from Fox Plaza. Four level building in center of photo would be demolished and replaced with federal building.

C View from far corner of Mission and Tenth Streets. Bank of America data center tower is octagonal structure. The lower mass structure is the rest of the data center. The federal building would be to the immediate right of the data center.



VIEWS OF TENTH AND MARKET ALTERNATIVE

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Figure 3.9-1

The Tenth and Market site encompasses approximately 40 percent of the block bounded by Market, Mission, Tenth, and Eleventh Streets, and is entirely developed with structures and paved areas. The proposed project would require the demolition of the buildings on the eastern half of the block, including two structures along the Market Street frontage. The structure at the corner of Market and Tenth streets is a 1960s-era, four-story box with a zero-lot line frontage. Typical of office structures built in the 1960s, it is finished with a banded black and aqua-colored glass skin framed with polished aluminum mullions. Between this structure and the Bank of America Data Center is a three-story circa 1940s retail/office structure of precast concrete. Presently, these two structures are dwarfed in scale by their 1970s neighbor.

Along Tenth Street between Jessie and the 1960s office building on Market Street are three circa-1930s structures, two and three stories tall. These structures have been isolated from the three-story structure on the Market Street frontage by the 1960s office/retail building. They are also dwarfed by the Bank of America Data Center, and because the data center was designed as the first half of a phased project, these buildings have no urban design relationship to the dominant structure in the block. South of Jessie Street to the corner of Tenth and Mission Streets is the site of a 1970s-era gas station, with characteristic drive-up bays and extensive paved surface areas. The development is fenced off and is not occupied. This site is also landscaped with ficus-species street trees, apparently planted at the time of the development, as they appear to be approximately 20 years in age.

Surrounding blocks are developed with structures of a wide variety in scale, age, and design. The area north of Market Street across from the subject site includes three separate blocks that are part of a street grid pattern that does not correspond to the grid south of Market. This results in an interesting mix of building orientations and corner angles in structures across Market from the subject site. To the northwest of the subject site and fronting on Market Street is a series of zero-lot line structures ranging in year of development from 1920s to 1960s, and in height from three to five stories. Directly north of the site is the intersection of Fell and Polk Streets, which intersect Market Street at 45 degree angles. Northeasterly at Polk and Market Streets is Fox Plaza, a quintessential 1960s mixed-use development which includes a 20-story office and residential tower among its multiple structures arranged in an open, paved plaza. To the east across Tenth Street is the venerable 1930s-era San Francisco Merchandise Mart building, the most carefully-designed of the pre-World War II structures. It rises to 15 floors, as does the 1960s era annex building immediately south. The remaining structures facing the subject site across Tenth and Mission Streets are 1920s and 1930s-era mixed commercial and residential structures.

B. Seventh and Mission Alternative

The Seventh and Mission Alternative site is also within a highly urbanized setting with multistory structures and extensive paved areas. The Seventh and Mission Alternative site is within a block bounded by Market, Seventh, Mission, and Eighth Streets. It also encompasses a discontinuous stub-out public street. On the north side is Stevenson Street, another

discontinuous stub-out street that serves as an alley access to the rear facades of the row of buildings fronting Market Street.

Seventh Street, a collector street running southerly from Market Street adjacent to the eastern frontage of the Seventh and Mission Alternative site, is one of two rights-of-way of high visual prominence relative to the site. Mission Street runs along the southern frontage of the site. Mission Street is a major arterial serving the South of Market area, though most of the new development along the Mission Street corridor to date has occurred several blocks east of the subject site. To the west of the subject site is a 1960s-era multifamily residential development, formerly the Town House Motel, which is comprised of several buildings of 4 to 6 floors arranged around a paved plaza and surface parking areas. The Continental Building and One Trinity Center are the most imposing structures within the block due to their scale. The buildings to the east fronting Market Street and to the south fronting Seventh Street date from the post-1906 earthquake reconstruction period (1906 through 1920) and form a unified and coherent urban design pattern.

Figure 3.9-2 includes three views of the Seventh and Mission Alternative site: a perspective from the southeast corner of Mission and Eighth Street, looking northeast; a perspective from the southeast corner of Mission and Seventh Streets, looking northwest at the primary corner of the Seventh and Mission alternative site; and a perspective from the southeast corner of Market and Seventh Streets, looking south.

The subject site encompasses approximately 50 percent of the block and is dominated by the now-vacant fenced lot formerly occupied by the Greyhound Bus Terminal. Two structures along Seventh, the Vayssie Building/Hotel and the Hotel St. Raphael, also occupy the site. The proposed project would involve the demolition of these buildings, described below:

- 36-52 7th Street. The five-story brick Odeon Hotel exhibits an essentially Italian Renaissance-style facade rendered in concrete and plaster. It was constructed in 1914 for A. Vayssie, and designed and constructed by the San Francisco firm of Fabre and Bearwarld. The ground floor street-frontage was extensively altered circa 1950, when the building was converted into a Greyhound Bus terminal. Rated "C" in the San Francisco Heritage Survey.

- 54-60 7th Street. The four-story brick Hotel St. Raphael was constructed in 1907, an example of the generic neoclassical mode with some Italian Renaissance Revival influences by Charles Paff & Co., architects. Like its neighbor to the north, the ground floor street-frontage was extensively altered circa 1950, when the building was converted into a Greyhound Bus terminal. Rated "C" in the San Francisco Heritage Survey.

A

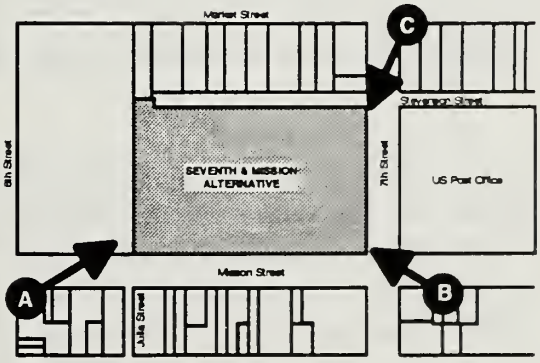
B

C

A View from Eighth and Mission Streets. Site is to the left of buses in the center of the photo.

B View from Seventh and Mission Streets.

C View from Market and Seventh Streets. Buildings in center of photo (36-52 and 54-60 Seventh Street) would be demolished for project at this site.



VIEWS OF SEVENTH AND MISSION ALTERNATIVE

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Figure 3.9-2

The surrounding development is distinctive within the Market Street corridor not only due to the Civic Center structures and public place, but also due to the concentration, generally on the south side of Market Street, of a collection of buildings all dating from the first few decades of this century. Aside from the buildings located within the block containing the Seventh and Mission Alternative site, there are four distinctive structures along the Seventh Street frontage facing the site. At the southeastern corner of Market and Seventh (1095 Market Street), is the Joseph D. Grant Building, an 8-story masonry structure. It is flanked by the old U.S. Post Office (now the U.S. Court of Appeals - Ninth Circuit) which is currently under renovation. This Beaux-Arts federal structure tends to tie this block to the Civic Center area north of Market. On either southern corner of Seventh and Mission is a pair of hotels. The block fronting Mission Street south of the Seventh and Mission Alternative site is a generally continuous grouping of buildings low in scale and consistent in design detailing.

C. Purchase Alternative

The purchase of an existing building would not result in a modification of San Francisco's aesthetic or visual resources.

D. Lease Alternative

The lease of an existing building would not result in a modification of San Francisco's aesthetic or visual resources.

E. No Action Alternative

Under this alternative, federal employees would continue to be housed in owned and leased space. No new federal office space would be constructed. There would be no change visually.

3.10 HISTORIC RESOURCES

An historic resources evaluation was prepared by San Buenaventura Research Associates (SBRA) of Santa Paula, California, and was based upon field investigations conducted by the consultants in March 1994, and historical background research conducted in March and April 1994.

3.10.1 Regional Setting

Pre-1890

The land occupied by the modern City of San Francisco was originally inhabited by the Costanoan Indians. With the colonization of California by the Spanish, a presidio (fort) and mission were established in 1776. No pueblo or town existed until 1839, when the first streets of Yerba Buena, later known as San Francisco, were laid out near the bay, and settled primarily by American merchants interested in trade. A second survey was conducted in 1847, extending the streets from the plaza, and renaming the settlement San Francisco. The 1847 plat also established the major Market Street arterial, dividing the smaller blocks to the north from larger blocks to the south, a distinctive development pattern that remains evident today. The over-sized blocks south of Market Street ultimately proved suitable for industrial and commercial development. San Francisco was perfectly situated to benefit from the California Gold Rush, which began in 1848 on the South Fork of the American River, near the present town of Coloma. The city thrived in its role as the major port of transit for gold-seekers, and the city's population climbed rapidly, reaching 56,000 persons in 1860 (Bancroft, 1886, Vol.V: 677; Hart, 1978: 373).

1890 to 1906

By the 1890s, San Francisco was firmly established as a modern city and as the economic and cultural hub of the West. The three-to-five story Victorian-era buildings from the earlier period of development were in the process of being replaced by ten-story "skyscrapers." These buildings were not only larger in size than their predecessors, but also of mostly steel frame construction, and richly detailed, although generally not as elaborate as their Victorian predecessors.

The 1893 Columbian Exposition in Chicago represented the single most significant urban design statement of the Nineteenth Century producing the grand plazas, axial boulevards and Beaux Arts public buildings known collectively as the "White City." This visually striking alternative to the growing clutter of urban America launched the City Beautiful movement nationwide. Befitting its singular role in the West, San Francisco set out to achieve the civic respectability implied by developing a City Beautiful plan for the Civic Center.

The present day Civic Center site was originally a portion of the Yerba Buena Cemetery established in 1847. The land became City property in 1860, and plans for constructing a City

Hall were advanced in 1872. However, the building was not completed until 1897, chiefly as a result of the City government's infamous political corruption. In 1899, a plan for a Civic Center surrounding the City Hall site and incorporating existing buildings was proposed by architect Bernard J.S. Cahill, but met with objections. In 1905, a new design for a grand plan with diagonal streets and grand plazas was advanced by the foremost proponent of the City Beautiful movement, the architect and planner Daniel Burnham. Before the plan could be executed, however, an earthquake of great magnitude struck San Francisco on April 18, 1906. The earthquake and resulting fire left the City Hall and a great majority of San Francisco's buildings in ruins (Corbett, 1976; Corbett, 1979: 31, 52).

The unique opportunity to implement the Burnham Master Plan presented by the earthquake and fire was lost however when the urgency to rebuild quickly overwhelmed planning considerations. Rapid new construction occurred on the original parcels, without Burnham's recommended changes to the underlying street pattern. Within three remarkable years, the City was essentially rebuilt, and in 1909 both Burnham and Cahill submitted revised plans. Burnham's plan was defeated, but Cahill's plan of using the old City Hall site and adjacent land was accepted in 1912. The Cahill plan minimized changes to existing street patterns, retaining Market Street as the major commercial arterial.

1907 to 1930

The City's commercial district was rebuilt almost entirely within the 3-year period following the devastating earthquake and fire. Most of the Victorian period architecture, with its woodframe and low- to medium-rise brick buildings and many of the early post-Victorian-era buildings were gone, replaced by the new architectural styles of the day, characterized primarily by the latter stages of Beaux Arts classicism. The business, financial and shopping districts in place prior to the earthquake and fire remained essentially in their original locations, with a few exceptions. A new theater district emerged along Market Street west of Fifth Street, and an area of private clubs developed west of Union Square (Corbett, 1979: 35-36).

An exhibition was planned to celebrate the City's rebirth, and the linking of west and east represented by the opening of the Panama Canal. The Panama Pacific International Exhibition of 1915 provided renewed impetus to growth, particularly related to tourism, and produced the Exposition Auditorium (now the Bill Graham Civic Auditorium), the first building in the Civic Center completed in accordance with the Cahill plan.

During the 1920s, the skyline of the City began to reflect the architectural notions of the pre-modern era. Unlike their smaller predecessors, the new skyscrapers featured set back or tapered towers. Art Deco and Zig Zag Moderne design elements replaced the neo-classical as surface ornamentation.

1931 to 1946

The period spanning the Great Depression and World War II represented a sustained lull in construction activity in San Francisco. Instead, many buildings were altered to reflect changing tastes and uses. With the opening of both the Oakland Bay Bridge and the Golden Gate Bridge in 1937, the City had to contend not just with greater numbers of people, but with a huge influx of automobiles as well. As a result, parking garages and other automobile-related uses began to be introduced into the City in considerable numbers.

1946 to Present

The Post-war trend towards modernism produced an almost total, conceptual revision to the practice of architecture, resulting in profound impacts on the cohesiveness of the urban fabric. The later phases of the Streamline Moderne Style, and particularly the International Style, represented a decided break with the conventional approach to scale, materials, relationship to context and urban design. Many buildings introduced during the 1950s and afterwards retreated from lot lines, interrupting the traditional street walls with plazas, driveways and parking garages. Many fine landmarks were lost to build parking garages and parking lots. Redevelopment projects also removed large groupings of buildings, and numerous older buildings were altered to reflect the new aesthetic.

After 1963 buildings grew progressively taller, bringing an entirely new scale to the City. The 33-story Hartford Building was built in 1963, followed by numerous other highrise buildings. Height limitation initiatives in 1971 and 1972 were defeated, but the Urban Design element of the Master Plan adopted in 1972 addressed the issues of height and bulk, as well as issues of scale, proportion, texture, materials and building form.

Changing stylistic preferences and design and height controls have, since the mid-seventies, made the construction of highrise buildings more responsive to the urban context. The architectural trend towards Post Modernism brought a renewed interest in historically derived surface treatments and traditional streetscapes, a departure from the stark modern images previously juxtaposed against the older, neo-classically styled buildings.

3.10.2 Site-Specific Setting

This section looks at the historical significance of properties which may be affected by the project. Section 106 of the Historic Preservation Act of 1966 requires federal agencies to take into account the effect of projects on resources that are listed or eligible for listing on the National Register of Historic Places (NRHP). Tables 3.10-1 and 3.10-2 indicate which potentially affected properties in the areas of the proposed projects are listed on the NRHP. The tables also indicate where potentially affected properties have been designated State or City Landmarks. These landmark designations are based on historical concerns of state and local importance as well as those of national importance.

In addition to these listings, the tables set forth the rating of each potentially affected property made under Article 11 of the Planning Code (Downtown Plan Rating), as well as its San Francisco Heritage Rating (SFH Rating). The Downtown Plan Ratings rate the historical significance of properties in the downtown area on a scale of "I" (significant buildings) to "V" (unrated). The SFH Ratings are similar, using a scale of "A" (highest importance) to "D" (minor or no importance). Although the Downtown Plan Ratings have incorporated and effectively superseded the SFH Ratings for buildings within the downtown area, both ratings are provided in this section for informational purposes. SBRA's own evaluation of the current historical integrity of each property is also provided in the tables.

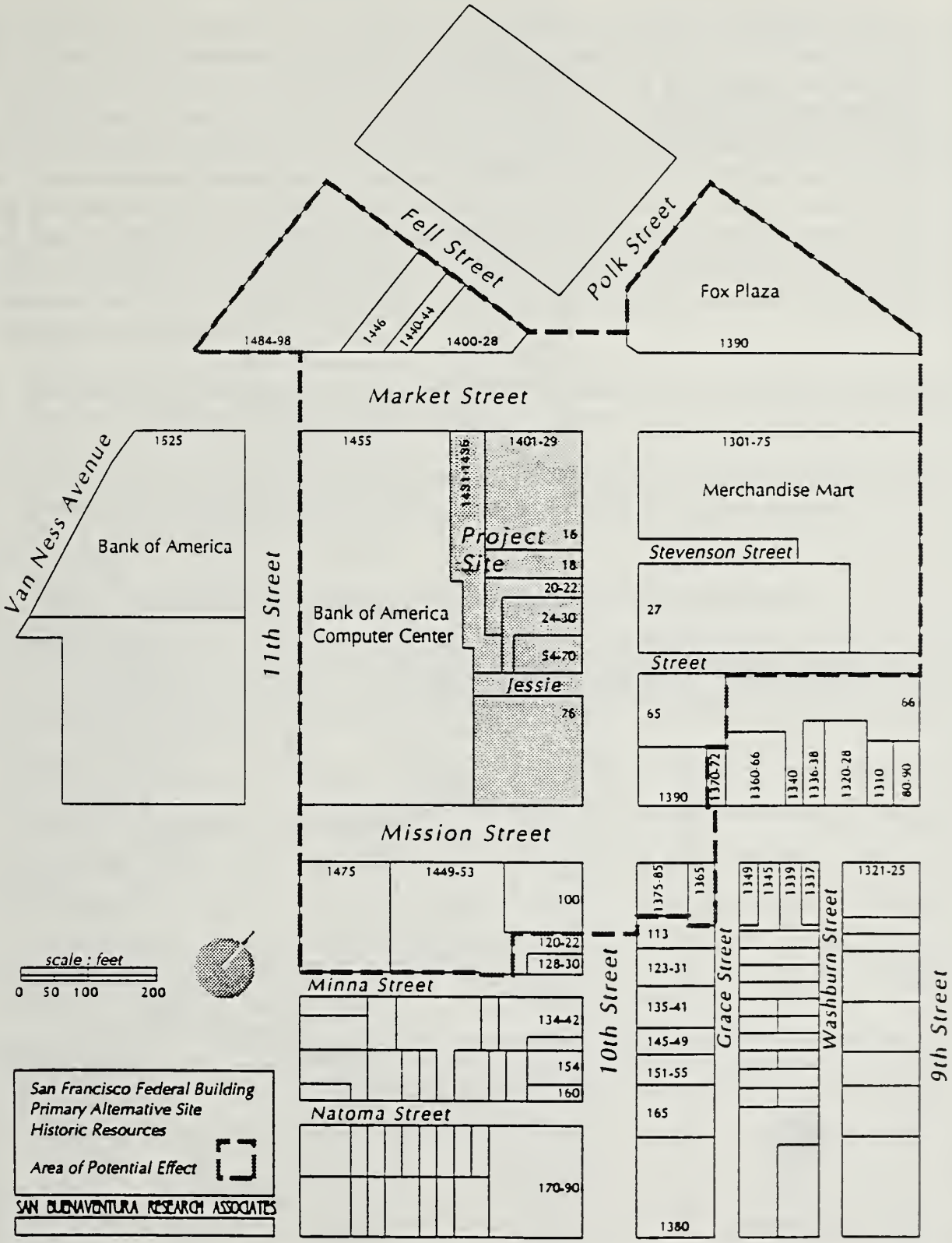
Area of Potential Effect

The APE as defined permitted the evaluation of the potential effects of the proposed undertaking on historic resources and the "...area or areas within which an undertaking may cause changes in the character or use of historic properties" (36 CFR 800.2 (c)). This APE definition takes into account the already dense, congested urban character of the project area and vicinity. Visual impacts are the primary type of effect on historic properties that could be associated with the project. Thus, the APE is defined by the area that can be viewed from the project or the historic property affected.

The Area of Potential Effect (APE) for the Tenth and Market Alternative Site is defined as: the project site, all parcels on the block, and parcels abutting common streets (see Figure 3.10-1). The APE for the Seventh and Mission Site is defined as: the project site, all parcels on the block, parcels abutting common streets, and parcels abutting Mission Street, from Seventh Street to mid-block between Sixth and Seventh Streets (see Figure 3.10-2).

A. Tenth and Market Alternative

The Tenth and Market Alternative site is characterized by a grouping of buildings constructed and/or altered from the mid-1920s through circa 1960. A two-story building at 1401-29 Market Street was constructed circa 1926, as near as can be determined. A two-story building immediately to the south (16 Tenth Street) was constructed circa 1955. Two additional stories were evidently added to these structures circa 1960, and they were then partially unified under an International Style facade. The two-story masonry building at 18 Tenth Street was constructed circa 1940 and subsequently altered; a two-story building at 20-22 Tenth Street was constructed circa 1955; and a pair of two-story, utilitarian Spanish Colonial Revival style masonry structures were constructed during 1924 and 1935 at 24-30 and 55-70 Tenth Street. The four-story masonry building at 1431-35 Market Street was constructed in 1924, and apparently remodeled circa 1945. The southern end of the site is presently vacant or paved for parking, with the exception of a small car wash located at 76 Tenth Street, constructed circa 1955.



TENTH AND MARKET ALTERNATIVE
AREA OF POTENTIAL EFFECT

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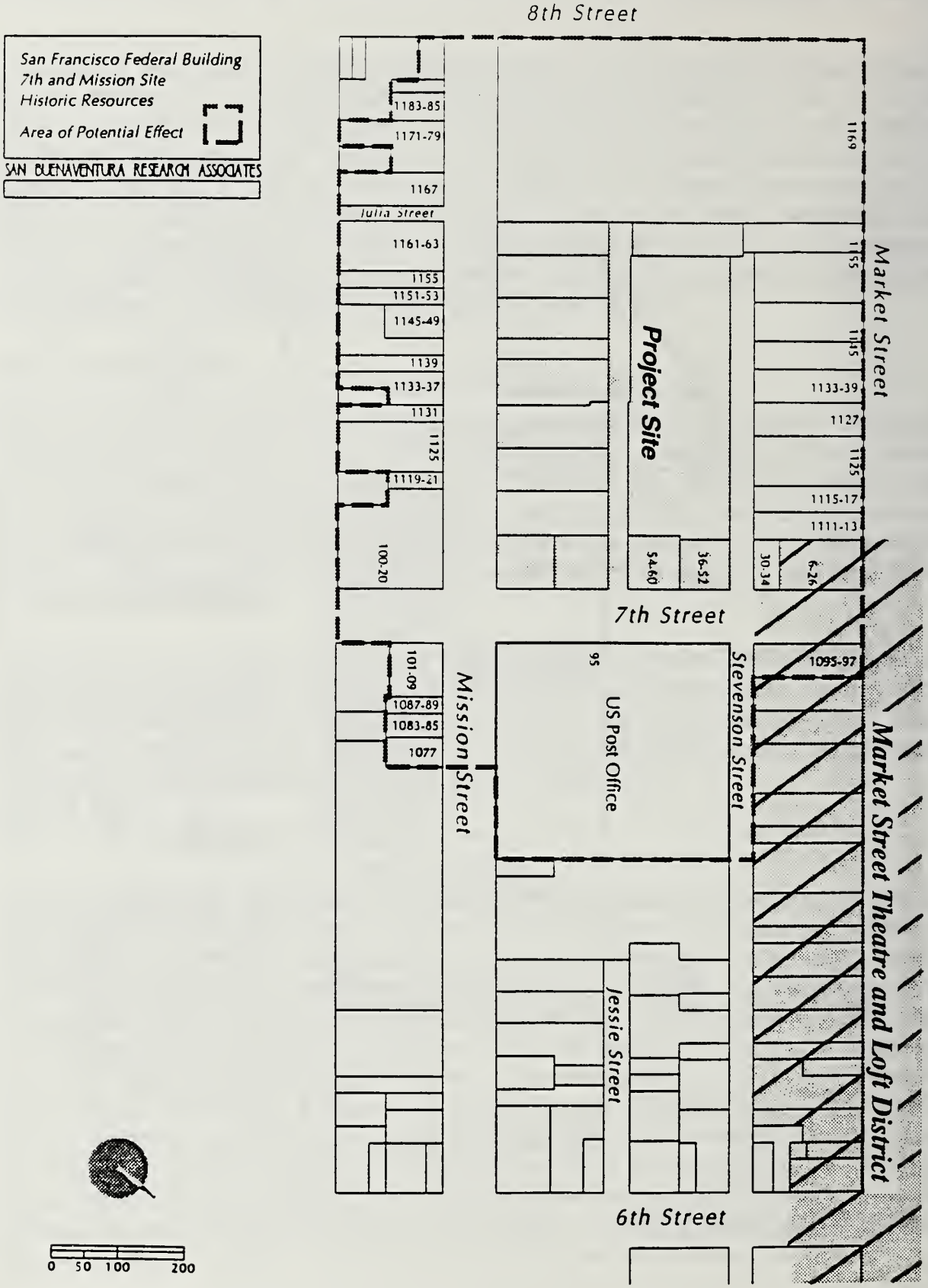
Figure 3.10-1



SEVENTH AND MISSION ALTERNATIVE
AREA OF POTENTIAL EFFECT

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Figure 3.10-2

The majority of buildings in the vicinity of the Tenth and Market Alternative site were constructed during the post-earthquake and fire rebuilding period, 1907-1930. Examples include the Grand Central Hotel at 1400-28 Market (1907); the Gantner & Mattern Company Mill at 1449-53 Mission Street (a five-story building constructed in 1913, it is a large example of industrial buildings constructed in this portion of Market Street) and the majority of buildings on the south side of Mission Street between Ninth and Tenth Streets. These buildings reflect the emerging industrial character of the northern edge of the South of Market area during this era. The Western Furniture Exchange/Furniture Mart (1301-75 Market Street, 1937) is the only building located near this site which reflects the 1931-1945 period of development. The Western Furniture Mart is a substantial moderne-style building occupying the entire frontage between Ninth and Tenth Streets.

An example of the modern era of construction (1946-present) near the Tenth and Market Alternative site is the Fox Plaza (1967) at 1390 Market Street.

Table 3.10-1 lists all buildings within the Area of Potential Effect as shown on Figure 3.10-1. It includes information regarding the buildings' status for various ratings categories.

Table 3.10-1. Buildings Within the Tenth and Market APE

Property Address[a]	Historic Name	Year Built	Architect (A) Engineer (E) Builder (B)	NRHP Listing	State/City[d] Landmark	Downtown Rating	SFH Rating[e]	Integrity[f]
1301-75 Market St.	Western Furn Exch/Merchandise Mart	1937/50(c)		none		I	B	good
1390 Market St.	Fox Plaza	1967	Victor Gruen & Assoc.(A)	none				n/a
1400-28 Market St.	Grand Central Hotel	1907/39		none			D	fair
1401-29 Market St. (16-18 10th)	Symon Bros Bldg	1926/60(c)		none				poor
1431-35 Market St.		1924/50(c)	TH Lentzen (A)	none				poor
1440-44 Market St.	McGovern Bldg	1913	JH Hjul (B)	none			C	good
1446 Market St.		1916/55(c)		none				poor
1455 Market St.	Bank of America Computer Center	1974(c)		none				n/a
1484-98 Market St.		1960(c)		none				n/a
1365-85 Mission St.		1925		none			C	good
1390 Mission St.		1970(c)	GW Kelham (A)	none				n/a
1449-53 Mission St.	Gantner & Mattern Co. Mill	1913		none			B	good
1475 Mission St.				none				
16 10th St.		1955(c)		none				n/a
18 10th St.		1940(c)		none				poor
20-22 10th St.		1950	WO Peugh (A)	none				n/a
24-70 10th St.	E Swift Bldg	1929/35		none			C	good

Table 3.10-1. (Continued)

Property Address[a]	Historic Name	Year Built	Architect (A) Engineer (E) Builder (B)	NRHP Listing	State/City[d] Landmark	Downtown Rating	SFH Rating[b]	Integrity[c]
27 10th St.		1975(c)		none				n/a
65 10th St.				none				
76 10th St.		1955(c)		none				n/a
100 10th St.		1955(c)						n/a

[a] Address is shown on APE maps.
[b] SFH = San Francisco Heritage rating. (This rating was superseded by the Downtown Plan.)
[c] Integrity, as analyzed by SBRA. N/A designates buildings of recent construction.
[d] No properties have been designated as a State or City Landmark.

B. Seventh and Mission Alternative

The Seventh and Mission Site is characterized primarily by vacant land, parking lots and two vacated buildings. The five-story brick building located at 36-52 Seventh Street exhibits an essentially Italian Renaissance-style facade rendered in concrete and plaster. It was constructed in 1914 as the Hotel Odeon for A. Vayssie, and designed and constructed by the San Francisco firm of Fabre and Bearwald. The ground floor street-frontage was extensively altered circa 1950, when the building was converted into a Greyhound Bus terminal. The four-story brick building at 54-60 Seventh Street was constructed as the Hotel St. Raphael in 1907, an example of the generic neoclassical mode with some Italian Renaissance Revival influences by Charles Paff & Co., architects. Like its neighbor to the north, the ground floor street-frontage was extensively altered circa 1950, when the building was converted into a Greyhound Bus terminal.

At the first floor level of the two former hotels, a veneer of glazed tile panels (which has been painted over) unifies the buildings, giving them the street level appearance of being one structure. This was apparently done to accommodate the bus terminal usage. Currently, a demolition permit is posted at the main entrance of the joined buildings. The permit was issued by the City on July 18, 1995, and would have required work to commence by January 6, 1996. An extension was granted, however, extending the required commencement date to April 10, 1996.

Construction of the U.S. Court of Appeals, Ninth Circuit (Old Post Office) building at 95 Seventh Street across from the Seventh and Mission site, was begun in 1897, and completed in 1905. This building is listed on the National Register of Historic Places and has been evaluated by the NPS for National Landmark Status. Preparation of the final, City Beautiful-inspired Beaux Arts style plans for the building were supervised by architect James Knox Taylor. The building is undergoing extensive restoration and seismic upgrading (base isolation). When this work is completed the building will be reevaluated for landmark status.

The Market Street Theatre and Loft District is a thematically linked grouping of buildings located on the north and south sides of Market Street. These buildings are fine, representative

examples of the period of commercial development occurring from 1905 through the mid-1920s. The district was listed on the NRHP in 1986, and appears to remain eligible (No significant changes have occurred in the District since it was listed). Two buildings within the APE are listed as contributors to the district. The Grant Building (1095 Market Street), a Category I significant building within the Downtown Plan, designed in the Renaissance style by Newton Tharp, is an eight-story building constructed in 1905 and repaired in 1906. Despite some alterations to the ground floor and removal of the cornice, it serves as an important anchor for the district. The five-story Oddfellows Hall (6-26 Seventh Street), a Category I significant building within the Downtown Plan, was constructed in 1909 from a Renaissance design produced by architect GA Dodge. Together with the Grant Building, it serves an important visual anchor for the western edge of the district.

Two buildings in the vicinity of the Seventh and Mission Alternative Site remained from the pre-earthquake period: the Grant Building, described above, and the Bell (Embassy) Theatre (demolished in 1995) at 1125 Market Street which was built in 1905 as a vaudeville theater, and rebuilt in 1907 with some modifications. A number of buildings constructed in 1907-1931 period are located in the vicinity of the Seventh and Mission site. The Franchesca Theatre at 1127 Market was built in 1917, and all but one of the buildings on the south side of Mission Street between Seventh and 8th Streets were built during this time period. The L. Lurie Building (1087-89 Mission Street) dates from 1921 and was designed by the O'Brien brothers. It is a Category III contributory building within the Downtown Plan and is located within the APE. Their uses reflect general business, industrial and auto-related themes. The quantity of small hotels constructed south of Market Street reflected the rapid return of commerce and tourism after the earthquake and fire, and an anticipation of the 1915 Pan Pacific International Exposition. Examples include the Grand Southern Hotel at 101-09 Seventh Street, and the Mayre Building (Hotel Gordon) at 100-120 Seventh Street, both built in 1911. An example of Post Modernism can be found at One Trinity Center (approximately 1145 Market Street).

Table 3.10-2 lists all buildings within the APE as shown on Figure 3.10-2. It includes information regarding the buildings' status for various ratings categories.

Table 3.10-2. Buildings Within the Seventh and Mission APE

Property Address[a]	Historic Name	Year Built	Architect (A) Engineer (E) Builder (B)	NRHP Listing	State/City[d] Landmark	Downtown Rating	SFH Rating[b]	Integrity[c]
1095-97 Market St. (25-27 7th)	Joseph D. Grant Bldg	1905/06	Newton Tharp (A)	NRHP Theatre Loft Dist.		I	A	good
1111-13 Market St.	Wm. B Wagnon Bldg	1923		none			D	poor
1115-17 Market St.	Wm. B Wagnon Bldg	1923		none			C	fair
1125 Market St.	Bell/Embassy Theatre	1905/07	Reid Brothers (A)	none			B	demolished

Table 3.10-2. (Continued)

Property Address[a]	Historic Name	Year Built	Architect (A) Engineer (E) Builder (B)	NRHP Listing	State/City[d] Landmark	Downtown Rating	SFH Rating[b]	Integrity[c]
1127 Market St.	Franchesca Theatre	1917		none			C	good
1133-39 Market St.	Hotel	1906/65(c)		none			D	poor
1145 Market St.	One Trinity Center	1989	Backen, Arrigoni & Ross (A)	none				n/a
1155 Market St.	Continental Bldg	1985(c)		none				n/a
1169 Market St.	Town House Motel	1960		none				n/a
1077 Mission St.		1920(c)		none				good
1083-85 Mission St.		1906	Salfield & Colberg (A)	none				good
1087-89 Mission St.	L. Lurie Bldg	1921	O'Brien Bros (A)	none		III		good
1119-21 Mission St.		1907		none			C	good
1125 Mission St.	Hess Garage	1927	JH Hjul (E)	none			B	good
1131 Mission St.	Confectioner's Exch	1923	O'Brien Bros (A)	none			C	good
1133-37 Mission St.	Knights of the Red Branch	1909	FT Shea & J Lofquist (A)	none				poor
1139 Mission St.	coffee roasting plant	1921	Weeks & Day (A)	none				fair
1145-9 Mission St.		1910	JV Campbell (B)	none				fair+
1151-53 Mission St.	Dr. Chas Bauer Bldg	1910	A Schroepter & H Skid-more (A)	none			C	good
1155 Mission St.	McLaughlin Bldg	1914	Wm H Crim, Jr. (A)	none			C	good
1161-63 Mission St.	Bucher Co	1924	WA Stephen (A)	none			C	good
1167 Mission St.	La Verité Bldg	1917	JH Hjul (B)	none			C	poor
1171-79 Mission St.		1955(c)		none				n/a
1183-85 Mission St.	truck sales	1921	TW Lentzen	none			C	fair+
6-26 7th St. (1107 Market)	Odd Fellows Hall	1909	GA Dodge (A)	NRHP Dist.		I	A	good
30-34 7th St.		1907	Wm Curlett & Son (A)	none			C++	good
36-52 7th St.	Hotel Odeon	1914	Fabre & Bearwald (A/B)	none			C	fair
54-60 7th St.	Hotel St. Raphael	1907	Charles Paff & Co (A)	none			C	fair
95 7th St.	US Court of Appeals, 9th Circuit (old Post Office)	1897-1905	James Knox Taylor (A), et al.	NRHP Listed		Federal property (unrated)	A	very good
100-20 7th St.	Mayre Bldg/Hotel Gordon	1911	Cunningham & Politco (A)	none			C	good
101-09 7th St.	Grand Southern Hotel	1911	AR Denke & C McManus (A)	none			C	good

[a] Address is shown on APE maps.
[b] SFH = San Francisco Heritage rating. (This rating was superseded by the Downtown Plan.)
[c] Integrity, as analyzed by SBRA. N/A designates buildings of recent construction.
[d] No properties have been designated as a State or City Landmark.

C. Purchase Alternative

A Purchase Alternative site has not been specifically identified, and, therefore, cannot be characterized. A determination of the historic character of a Purchase Alternative site would be required if (1) the building is 50 years old or older, or is of otherwise exceptional historic or architectural quality, and (2) the nature of the proposed alterations to the building or site would result in changes to its integrity. Alteration of National Register (or eligible) properties would require consultation under Section 106 of the National Historic Preservation Act of 1966.

D. Lease Alternative

A Lease Alternative site has not been specifically identified, and, therefore, cannot be characterized. A determination of the historic character of a Lease Alternative site would be required if (1) the building is 50 years old or older, or is of otherwise exceptional historic or architectural quality, and (2) the nature of the proposed alterations to the building or site would result in changes to its integrity. Alteration of National Register (or eligible) properties would require consultation under Section 106 of the National Historic Preservation Act of 1966.

E. No Action

The No Action Alternative does not involve the modification of a site, and, therefore, requires no characterization. The federal government would continue to occupy federally owned and leased buildings. If such buildings required alteration, the proposed alterations would require consultation under Section 106 of the National Historic Preservation Act of 1966.

3.11 PUBLIC UTILITIES AND PUBLIC SERVICES

3.11.1 Electricity

Regional Setting

Electrical service in San Francisco is supplied by the Pacific Gas & Electric Company (PG&E). Electric service will be provided in accordance with the rates and rules that are filed with and approved by the California Public Utilities Commission (CPUC) at the time the services are rendered (Crane, written communication, March 21, 1994). PG&E has an extensive distribution system throughout the City that can be readily extended to serve new development.

Site-Specific Setting

A. Tenth and Market Alternative

PG&E currently has an underground network electric distribution system in the service areas surrounding the Tenth and Market Alternative site.

B. Seventh and Mission Alternative

PG&E currently has an underground network electric distribution system in the service area surrounding the Seventh and Mission Alternative site.

C. Purchase Alternative

The Purchase Alternative would be supplied with electricity from PG&E infrastructure in the vicinity of the site.

D. Lease Alternative

The Lease Alternative site has not been identified. However, it is assumed that any lease option would be adequately served by PG&E infrastructure in the vicinity of the site.

E. No Action Alternative

Existing federally-owned and leased space is adequately served by PG&E. Therefore, the No Action Alternative would not affect the electrical supply.

3.11.2 Natural Gas

Regional Setting

Gas service is supplied to San Francisco by PG&E. PG&E has an extensive gas distribution system located throughout the City that can be readily extended to service new development.

Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is serviced by high-pressure gas facilities located in the vicinity of the site. Gas service would be provided via a meter usually located inside the building at the property line (Crane, written communication, March 21, 1994).

B. Seventh and Mission Alternative

The provisions discussed under the Tenth and Market Alternative also apply to the Seventh and Mission Alternative site.

C. Purchase Alternative

A Purchase Alternative site has not been identified. However, it is assumed that the site would be located in the CBD and would be served by PG&E gas lines.

D. Lease Alternative

While no leasable space has yet been identified, it is assumed that this alternative would be serviced by PG&E.

E. No Action Alternative

Existing federally-owned and leased office buildings are adequately serviced by PG&E.

3.11.3 Solid Waste

Regional Setting

The City and County of San Francisco Solid Waste Management Program is the entity responsible for overseeing all waste disposal and recycling activities. According to sources at the Solid Waste Management Program, approximately 600,000 tons of solid waste are landfilled each year (Keller, written communication, March 17, 1994). On the whole, commercial and downtown offices are major contributors of paper and cardboard to the waste stream. The City

is working towards increasing the amount of solid waste that is recycled in order to reduce the amount of materials hauled to landfills. State Assembly Bill 939 (AB 939) requires all cities to develop a source reduction and recycling program to achieve a 25 percent reduction of solid waste by 1995 and a 50 percent reduction by the year 2000. To comply with the AB 939 requirements, the City of San Francisco has a residential curbside program. Currently, the program has a participation rate of approximately 75 percent.

The Golden Gate Disposal Company and the Sunset Scavenger Company provide solid waste collection services in the City of San Francisco. Golden Gate services mainly the downtown and financial districts while Sunset Scavenger is responsible for the rest of the City. A few small areas, which are mostly Federal lands, are serviced by other companies (Keller, written communication, March 17, 1994).

All refuse generated in San Francisco must be taken to the Sanitary Fill Transfer Station located on the southern edge of the City and disposed of at the Altamont Landfill in Alameda County. Golden Gate, Sunset Scavenger and Sanitary Fill are all subsidiaries of Norcal Waste System. The City is currently operating under a contract with the Altamont Landfill for a total of 65 million tons of garbage. It is estimated that this contract will meet disposal needs for another 16 to 18 years or until the year 2012 or 2014. The landfill is currently classified as a Class III facility which accepts only municipal solid waste. However, the owner is in the process of changing part of the landfill to a Class II facility which would allow some kinds of hazardous waste, such as sewage sludge, to be disposed of at the landfill (Keller, written communication, March 17, 1994).

Site-Specific Setting

The alternative sites are located in the downtown area, and would be serviced by the Golden Gate Disposal Company.

3.11.4 Water Supply

Regional Setting

The San Francisco Water Department is responsible for storing and distributing water in the city. The primary source of water is rainfall stored in O'Shaughnessy Dam on the Tuolumne River and other local dams (Pelayo, written communication, March 29, 1994). No water is supplied from wells. The Department provides potable water for both domestic and fire protection use. A total of 160 million gallons per day (MGD) of water also is distributed to 32 public and private water companies along water transmission routes (Pelayo, written communication, March 29, 1994). Areas receiving water through these means include Alameda, San Mateo and Santa Clara Counties (San Francisco, City and County of, August 23, 1990). Presently the total water usage in the City of San Francisco is approximately 65 to 70 MGD. The San Francisco Water

Department has initiated plans to establish a reclaimed water district (Pelayo, written communication, March 29, 1994).

San Francisco's water supply is divided into low- and high-pressure systems. The low-pressure water system supplies water for residential and business uses. The high-pressure system is primarily used for firefighting. Water storage capacity in San Francisco is approximately 400 MGD. The city has access to additional water stored outside of San Francisco, which indicates that an adequate supply can be provided to the city.

Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is bounded by water supply infrastructure on all sides. Plans provided by the San Francisco Water Department show a 12-inch main located in Mission Street, an 8-inch main located in Tenth Street, and a 22-inch main along Market Street. There is also an 8-inch main in Eleventh Street and a 4-inch main which cuts into the site on Jessie Street.

B. Seventh and Mission Alternative

The Seventh and Mission Alternative site is served on all sides by City water supply infrastructure. A 12-inch main is located in Mission Street, a 16-inch main runs down Seventh Street and an 8-inch line runs down Market Street. In addition, 8-inch mains are located in Stevenson and Jessie Streets.

C. Purchase Alternative

Because the precise location of the Purchase Alternative has not been determined, water supply infrastructure locations cannot be identified. It is assumed that the site would be adequately served due to its probable location in or near the CBD.

D. Lease Alternative

The Lease Alternative site has not been determined. Because space would be leased within an existing building or buildings, it is assumed that the water supply and infrastructure would be adequate to meet demands.

E. No Action Alternative

The existing federally-owned and leased spaces are adequately served by City water infrastructure.

3.11.5 Wastewater

Regional Setting

San Francisco operates a combined wastewater collection system over a service area of 49 square miles. This includes the entire City and County of San Francisco, with the exception of the Presidio and Treasure Island. Rainfall runoff, residential and industrial sewage are collected and treated by the same system. Wastewater collected in the city is discharged to one of three water pollution control plants (WPCP). The eastern portion of the city is served by the Bayside Core Plant, the Southeast plant serves the Mission Bay area and the Richmond-Sunset plant serves the west side of the city. A fourth plant, the North Point plant, functions as a back-up during periods of wet weather (City and County of San Francisco, August 23, 1990)

The current service population consists of 700,000 permanent and 900,000 week day/daytime residents. This population is projected to remain the same in the years 2010 and 2020 (Anderson, written communication, March 15, 1994). On average, 67 MGD of sewage are generated in the city, with low flows of 24 MG (night time) and peak flows during wet weather of 210 MGD (Anderson, written communication, March 15, 1993). Currently 80 to 90 percent of the wastewater collection system's capacity is being used. When storms occur, the system is taxed beyond its usual dry weather flow capacities. Rainfall greater than 0.02 inches per hour will cause the system to exceed capacity. During periods of precipitation, untreated wastewater is piped into storage structures. If storage capacity is exceeded, untreated sewage is discharged into the San Francisco Bay and the Pacific Ocean (San Francisco, August 23, 1990).

Site-Specific Setting

A. Tenth and Market Alternative

The wastewater treatment plant serving the Tenth and Market Alternative site is the South East Water Pollution Control Plant (SEWPCP) located at 750 Phelps Street in San Francisco. This plant provides secondary treatment using the oxygen activated sludge technique. Currently 80 to 90 percent of the plant's current capacity is being used. Following secondary treatment, effluent is discharged through diffusers into the salt water of the San Francisco Bay.

The wastewater collection system consists of a gravity line to the Channel Pump Station, and a 54-inch pressure line to the SEWPCP. The Tenth and Market Alternative site is served by a 9-foot 6-inch sewer line on Tenth Street. The City and County of San Francisco Department of Public Works owns the line serving the site.

B. Seventh and Mission Alternative

The SEWPCP also serves the Seventh and Mission Alternative site. The treatment and wastewater collection facilities described under the Tenth and Market Alternative above also

apply to this site. Two sewer lines, (3-foot 6-inch and 5-foot 9-inch) located on Seventh Street, serve the site.

C. Purchase Alternative

Because a precise location for the Purchase Alternative has not been identified, the wastewater infrastructure serving the site cannot be disturbed. However, it is assumed that the Purchase Alternative would be located in the CBD, and adequate wastewater collection infrastructure would be available to the site.

D. Lease Alternative

The exact location of a lease space for federal office use has not been identified. However, it is assumed that the Lease Alternative would be located in the CBD and would be adequately served by wastewater infrastructure.

E. No Action Alternative

Existing federally-owned and leased buildings are adequately served by wastewater collection infrastructure.

3.11.6 Police Protection

Regional Setting

Police protection services within San Francisco are furnished by the City and County of San Francisco Police Department. Currently, there are 1,750 officers on the police force and 200 reserve officers (Lang, written communication, March 25, 1994).

On average, there are 2.8 police employees per 1,000 population in the United States. This ratio is slightly lower at 2.4 per 1,000 for the Pacific states including California, Oregon and Washington. At the present time, San Francisco's ratio of police officers to population is 1 officer for every 430 persons (Lang, written communication, March 25, 1994), or 2.3 officers per 1,000 persons.

The Police Department's personnel are assigned to the Office of the Chief and four bureaus. The bureaus include Field Operations, Investigations, Technical Services, and Administration. Patrol functions are carried out by officers in the Field Operations Bureau out of nine District stations. All of the alternative sites are located in the Southern District.

In calendar year 1993, 120,303 criminal incidents were reported in San Francisco. Of this total, approximately 68,553 were considered Part I incidents. Part I incidents include violent crimes such as thefts, homicides, burglaries and assaults. The remaining 51,750 were Part II incidents

which include narcotics, vice or disorderly conduct (Lang, written communication, March 25, 1994).

Priority A calls, which are classified as life-threatening situations, severe assaults and crimes in progress, have an average response time of approximately 6 minutes for the Southern District as a whole. Priority B calls include urgent situations where the crime has already taken place. Priority B calls have an average response time of 15 minutes for the entire Southern District. Average response time is measured from the time the call is received to the time officers arrive at the scene (Lang, written communication, March 25, 1994).

In addition to the local police force, the Federal Protective Services (FPS) has legal jurisdiction over federal buildings and provides law enforcement officers (Phelps, personal communication, August 2, 1994). These officers are responsible for the interior of the building and the sidewalks surrounding the structure. Usually the FPS has a Memorandum of Understanding with the local police (Title 41 Code of Federal Regulations 101-20.3).

There are three types of FPS jurisdictions:

- Exclusive - The FPS have all rights as far as police protection.
- Concurrent - The State works with the FPS and shares jurisdiction. In this way, the State does not entirely relinquish its authority.
- Proprietorial - The Federal government has acquired some rights as to how the building will be protected. However, the State still has primary jurisdiction.

The most common jurisdiction used by FPS is the Concurrent.

Federal responsibilities do not extend to emergency response situations (such as disturbances and assaults). The federal government depends upon the local police force for emergency responses. In terms of emergency response, the federal building is no different than a typical commercial property. Federal protective officers would also rely upon the local police force for assistance in controlling demonstrations, rallies, and similar gatherings that may occur outside the Federal Building.

Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site is served by the Southern Station (Company B) located at the Hall of Justice, 850 Bryant Street. This station is located 1 mile from the Tenth and Market Alternative site and has "first response." Response time to the site for Priority A calls averages 6 minutes. Average response time for Priority B calls is 15 minutes. Emergency access to the site is considered adequate (Lang, written communication, March 21, 1994).

Various crimes have occurred at the site. However, there is no predominant type of crime or pattern (Lang, written communication, March 21, 1994).

B. Seventh and Mission Alternative

The Southern Station at 850 Bryant has a "first response" to the project site. Located three-quarters of a mile from the Seventh and Mission site, the Southern Station has an average response time of 6 minutes for Priority A calls and 15 minutes for priority B calls. Various crimes have occurred at the site. No particular type of crime or pattern, however, is predominant. Existing emergency access to the Seventh and Mission site is considered adequate (Lang, written communication, March 21, 1994).

C. Purchase Alternative

A building for purchase has not been identified. However, the building would most likely be located in the CBD relatively close to a police station. Response times are assumed to be similar to those mentioned for the Tenth and Market Alternative.

D. Lease Alternative

A leasable office space has not been identified to house federal agencies. The space would, however, most likely be leased in the CBD or near the Civic Center where police stations are nearby. Response times are assumed to be similar to those mentioned under the Tenth and Market Alternative.

E. No Action Alternative

The No Action Alternative would mean that the proposed federal building would not be constructed. Police protection would continue to be supplied by both local and Federal forces. Federal Protective Services would respond to incidents involving most federally owned sites.

3.11.7 Fire Protection

Regional Setting

The City of San Francisco Fire Department (SFFD) service area encompasses 49 square miles and includes the San Francisco International Airport and the San Francisco Bay (Slater, written communication, March 1, 1994). SFFD is part of California's Mutual Aid System in which agreements are established to receive help from, or contribute assistance to, other jurisdictions. SFFD supplies crews for the State Office of Emergency Service-owned engine and supplies crews and equipment to other cities in need. For example, in 1991-92, the SFFD responded to the Oakland Hills Fire by sending over 200 personnel and equipment.

The city is broken into three citywide Administrative Divisions. These divisions include the Northeast Quadrant (Division 1), West Quadrant (Division 2) and Southeast Quadrant (Division 3). A fourth division is located at San Francisco International Airport. Each district (with the exception of Division 4 which is comprised of three firefighting companies) is further divided into 10 Battalion Districts (City and County of San Francisco, February 12, 1993). Each Battalion District has stations with various task units assigned to them. Task units include engine companies, truck companies, rescue squads and specialty units. There are a total of 41 active stations in the City.

The Department has an Insurance Service Office rating of A-1 on a scale from 1 to 10 with 1 being the highest and 10 the lowest (Slater, written communication, March 3, 1994). The Insurance Services Office (ISO) assigns fire insurance protection classifications to fire districts. The most common usage of the ISO rating is for setting fire insurance premiums. The principal components of each rating classification are water supply, communications, and the staffing and equipment level of the department. ISO ratings are intended to describe a district's ability to defend against major fires within the district. Therefore, a rating of A-1 shows that the Department has a history of excellent service.

During fiscal year 1991-92, the suppression units responded to 59,232 incidents. This represented a 0.03 percent increase over fiscal year 1990-91. There were 26,944 responses made to medically related incidents. The number of false alarms was up by 175 from the previous year (City and County of San Francisco, 1993).

In fiscal year 1991-92, 355 personnel were scheduled to work each day in the firefighting force. Taking absences into account, the daily staff for the firefighting force was 297. At the present time, the Department employs 1,514 line firefighters. In addition, the Department has 36 reserve firefighters (Slater, written communication, March 1, 1994).

Response time for emergency calls within the City is 3 minutes (Slater, written communication, March 1, 1994). Response time refers to the interval between the time of the alarm and the time the first unit arrives at the scene (City and County of San Francisco, 1990). Several variables influence response time including time of day, traffic conditions, weather and other factors that may affect travel to the scene. Another factor which may bear on response time is whether the station closest to the scene is out of service. Time out-of-service refers to the situation when a unit is responding to an incident and not available to respond to other incidents which may be occurring simultaneously.

In addition to fire suppression, San Francisco also has mechanisms established for fire prevention. A major entity in this area is the Bureau of Fire Prevention. During fiscal year 1991-92, the Bureau had an authorized strength of eighteen civilians, and twenty-one uniformed inspectors. The Bureau has several programs geared at prevention and monitoring which include the Fire Inspection Tracking System (FITS), Annual High Rise inspections, the Plan Checking Unit and Fire Department Permitting (City and County of San Francisco, February 12, 1993).

Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market Alternative site lies within Administrative Division 2. Station No. 36 is located 3 blocks from the Tenth and Market Alternative site at 109 Oak Street. The station is equipped with 4 engine companies and 2 battalion chiefs and has Emergency Medical Services (EMS). Response time to the Tenth and Market Alternative site would be approximately 2 minutes (Slater, written communication, March 1, 1994).

Station No. 3 would provide second response to the site. This station is located 9 blocks from the site at 1067 Post Street. Response time from Station No. 3 to the Tenth and Market Alternative site is 3 minutes. The station is equipped with 4 engine and 5 truck companies (Slater, written communication, March 1, 1994).

Fire flow at the project site is 600 gallons per minute at 80 pounds per square inch (Slater, written communication, March 1, 1994). Water is supplied via a low pressure hydrant.

B. Seventh and Mission Alternative

First response to the alternative site would be provided by Station No. 1. Located at 416 Jessie Street, Station No. 1 is just one block from the alternative site and has a response time of 2 minutes. The Station is equipped with 4 engine and 5 truck companies and has EMS available (Slater, written communication, March 1, 1994).

Second response to the alternative site would come from Station No. 8. Located 5 blocks from the site at 1676 Howard, response time to the site is 3 minutes. The station is equipped with 4 engine and 5 truck companies and 2 battalion chiefs. The site falls within the boundaries of Division 3.

Fire flow at the alternative site is 6,000 gallons per minute at 225 pounds per square inch. Both low and high pressure hydrants serve the site.

C. Purchase Alternative

A building available for purchase has not been identified. However, the building would most likely be located in the CBD relatively close to a fire station. Response times would be similar to those described under the Tenth and Market Alternative.

D. Lease Alternative

Leasable office space to house federal agencies has not been identified. The space would most likely be located in the CBD relatively close to a fire station. Response times would be similar to those described under the Tenth and Market Alternative.

E. No Action Alternative

Adequate fire protection services are currently provided to existing federally-owned and leased buildings.

3.12 TRANSPORTATION AND CIRCULATION

This section describes the existing transportation network in the vicinity of the alternative sites and is based on a traffic analysis prepared by Wilbur Smith Associates (April, 1994). Additional materials from the study are contained in Appendix F.

3.12.1 Setting

Roadways

Regional Access

The regional street system is depicted in Figure 3.12-1. The regional streets and freeways are:

U.S. Highway 101 to the south is an eight-lane freeway near the project site. Highway 101 connects Santa Clara and San Mateo Counties to San Francisco. Highway 101 ramps serving the site are the Mission Street/South Van Ness ramps or the Bryant Street ramps between Ninth and Tenth Streets ramps. Highway 101 terminates as a freeway at Golden Gate Avenue. Highway 101 continues as a surface facility along City streets including Van Ness Avenue to Lombard Street and across the Golden Gate Bridge to Marin County and points north.

I-280 is a six-lane freeway which also connects San Francisco to Santa Clara and San Mateo Counties. I-280 terminates at Brannan and Sixth Street. The I-280 freeway does not serve the site very directly; the most convenient ramps are at Brannan and Sixth Street.

I-80 provides access to the San Francisco-Oakland Bay Bridge and to the East Bay communities in Alameda and Contra Costa Counties. I-80 merges with Highway 101 about 2 miles inland and about 0.5 mile from the project site. Ramps to and from I-80 that serve the project site are at Seventh and Eighth Streets.

Local Access

The local street network serving the project site is depicted in Figure 3.12-2.

Market Street is a four-lane two-way street which is heavily used by transit vehicles. There is a center median with two-way light rail tracks. Market Street is a Transit Preferential Street as defined in the City's Master Plan. There is no on-street parking. The curbs are signed as tow-away zones, but there are intermittent passenger loading and delivery zones on both sides of the street. There are no curb cuts on Market Street except at intersection corners for handicapped access. The total curb-to-curb width is 68 feet. The travel lanes vary from 10 to 12 feet where there is no raised island transit stop to 8.5 to 10 feet where there is a raised island transit stop.

NOT TO SCALE

SOURCE: Wilbur Smith Associates

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VICINITY MAP

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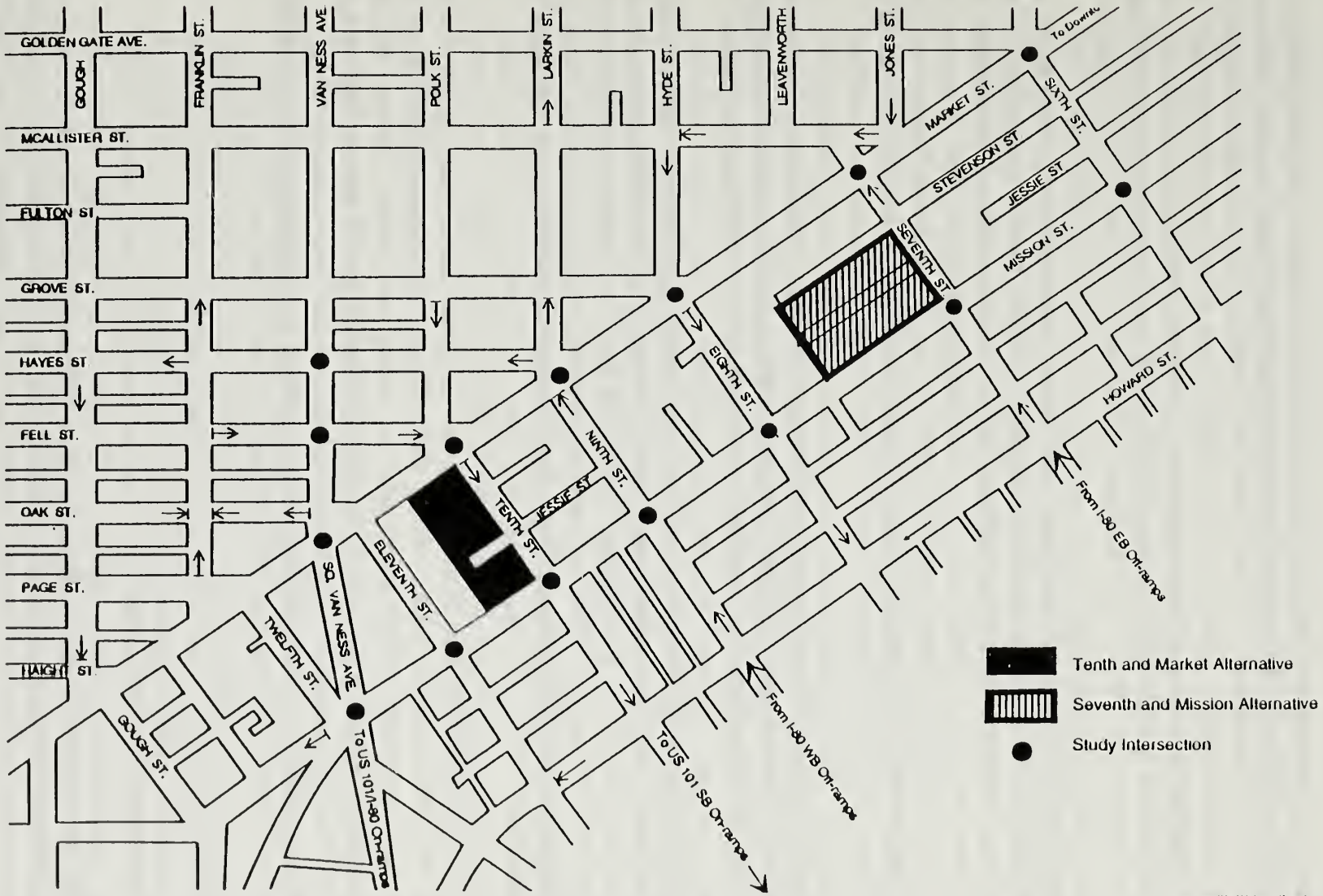
Figure 3.12-1



NOT TO SCALE

SOURCE: Wilbur Smith Associates

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LOCAL ACCESS TO ALTERNATIVE SITES

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.12-2

Tenth Street is a four-lane one-way street in the southbound direction. The total curb-to-curb width is 60 feet. The curbside lanes are 20 feet including the parking area, and the inside travel lanes are 10 feet. Jessie Street is the only street which intersects the west side of Tenth Street between Market and Mission Streets. Currently, Jessie Street dead-ends within the block, and it would be abandoned to accommodate the project. Also on the west side of Tenth Street, there is an onsite driveway to a parking lot underneath the existing building between Market and Jessie Streets, and there are two driveways to a private surface parking lot south of Jessie Street.

On the east side of Tenth Street, there are five driveways and two side streets, Jessie and Stevenson Streets. One driveway is north of Stevenson Street and provides access to City Park public parking underneath an existing building; one driveway is north of Jessie Street and provides access to private parking underneath an existing building, and three driveways are between Mission and Jessie Streets and provide access to the Ampco Public Parking lot. Two of these three driveways are routinely chained off and thus are not in use, but the parking lot still functions.

Tenth Street has metered (1 hour) on-street parking on both sides of the street. On the west side, there are 12 metered spaces and four handicapped spaces and one passenger loading zone space. On the east side, there are 15 metered spaces, and two motorcycle metered spaces.

Mission Street is a two-way street. There are two travel lanes in each direction. The total curb-to-curb width is 52 feet. The curbside lanes are 17 feet including the parking area, and the inside travel lanes are 9 feet. It is a Transit Preferential Street and is one of the most heavily used transit streets in the city. There are several driveways on Mission between Tenth and Eleventh Streets. On the north side, there are two driveways, and on the south side there are seven driveways.

There is 1-hour metered parking on Mission Street between Tenth and Eleventh Streets. On the north side, there are 11 metered spaces, with *No Parking* restrictions between 4 and 6 p.m. On the south side, there are six metered spaces, and two loading zone spaces. On the south side of Mission Street, *No Parking* restrictions are enforced between 7 and 9 a.m. and 4 to 6 p.m.

During the p.m. peak hour, the right lane in each direction is designated for buses and right turns only.

Transit Service

San Francisco Municipal Transit (MUNI)

Seven MUNI lines operate on Market Street between Tenth and Eleventh Streets fronting the Tenth and Market Alternative site (6, 7, 8, 9, 26, 66, and 71). The 71L also provides limited stops in the a.m. inbound and p.m. outbound directions. The site is also served by the 5 MUNI Metro lines underneath Market Street (J, K, L, M and N). Three local MUNI lines on Mission

Street serve the site (14, 14L and 26), and three local MUNI lines run on Van Ness (42, 47, 49). These and other MUNI lines within two blocks of the alternative sites are depicted in Figure 3.12-3.

Owl motor coach service operates on the surface of Market Street from 12:30 a.m. to 5:30 a.m. The F line recently began service on Market Street to Castro Street.

There is a curbside and a raised island MUNI stop in the eastbound direction on the far side of the intersection of Market and Tenth Streets. In the westbound direction, the nearest transit stop is on Market at Eleventh Streets, at the far side of the intersection. The nearest MUNI Metro station is the Van Ness station at Market and Van Ness Streets. There are no existing bus stops along the project site frontage.

The characteristics of the MUNI lines by corridor that serve the project vicinity during the PM peak hour are presented in Table 3.12-1. The four corridors, northeast, northwest, southeast, and southwest, were based on the definitions in the *Mission Bay EIR*. This table presents the average peak demand in the PM peak hour, the maximum load location, seated capacity, load factor, maximum policy load factor (assuming standees), and the resulting Level of Service (LOS)[1] per corridor. (The maximum load factor is the total capacity divided by the seated capacity). Most lines are operating well below their specified capacity. Several lines are operating near or at load factors of 1.0, but still have excess capacity for standees. The lines that are operating at virtual capacity and thus have the least available capacity to accommodate new passengers are: Line 71L, Line 66, and Line 12.

The lines serving the northwest, northeast and southeast corridors are under capacity with a load factor under 1.0 compared to a policy load factor of 1.3 to 1.55. The southwest corridor operates at an average load factor of 1.05 which is still less than the policy load factor of 1.55.

Regional Transit Service

Regional transit service is depicted in Figure 3.12-4. The nearest Bay Area Rapid Transit (BART) station to the Tenth and Market Alternative site, known as Civic Center station, is at Market and Eighth Streets. BART provides passenger service to Alameda and Contra Costa Counties and to the southern areas of the City with the terminus at Daly City. Other regional transit operators which provide regional transit service nearby are AC Transit, Golden Gate Transit, SAMTRANS, CalTrain, and ferry service from the Ferry Terminal. AC Transit serves the East Bay cities in Alameda County from the Transbay Terminal at Mission and Fremont Streets. Golden Gate Transit provides service to Marin and Sonoma Counties. Eight Golden Gate Transit lines serve the vicinity of the project, primarily on Van Ness, McAllister and Seventh Streets. The nearest Golden Gate Transit stops are at Market and Mission at Ninth Street. SAMTRANS provides service to San Mateo County, and in San Francisco primarily

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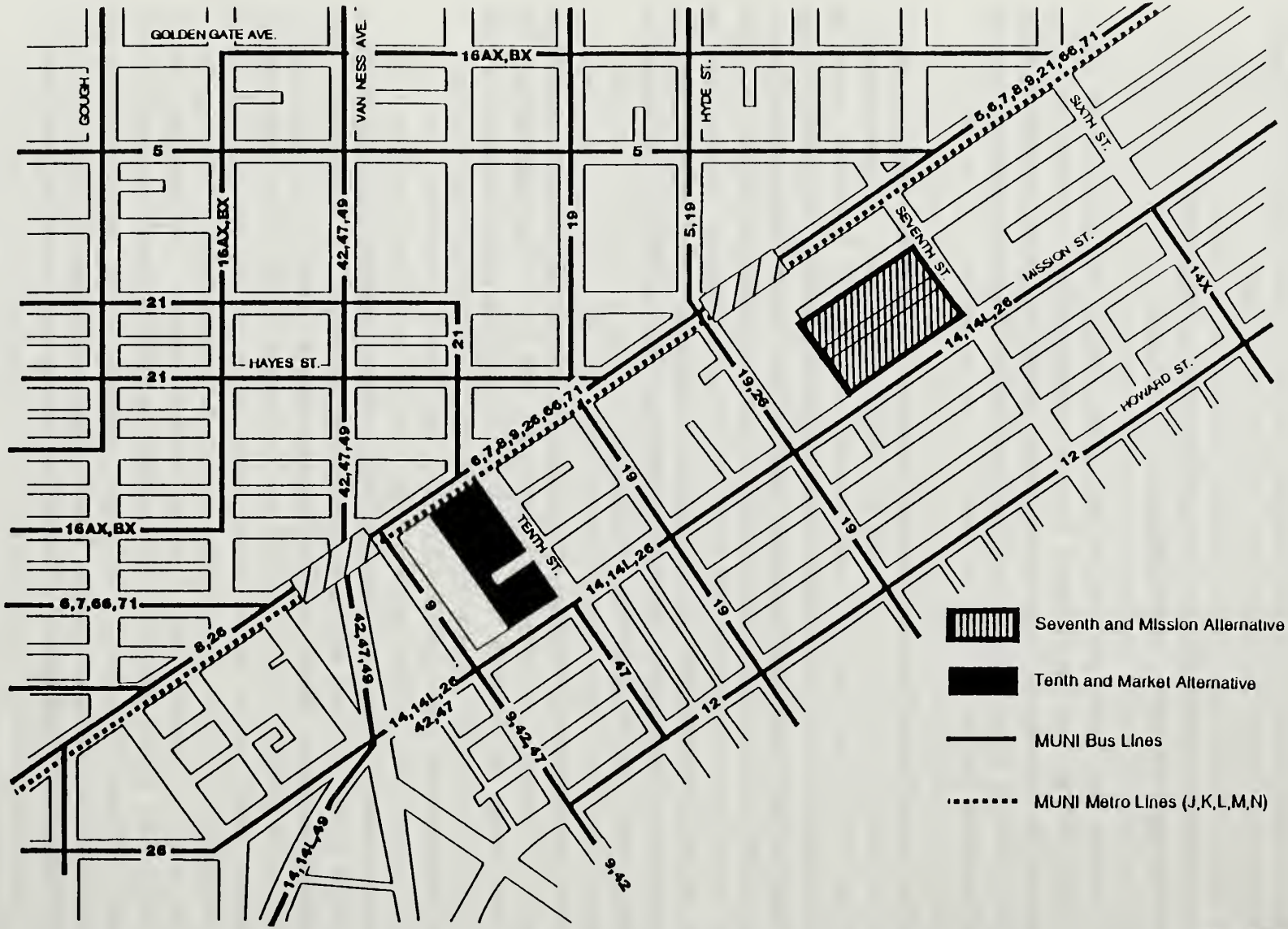
[1] Appendix F contains a discussion of Levels of Service.



NOT TO SCALE

SOURCE: Wilbur Smith Associates

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LOCAL TRANSIT SERVICE

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Figure 3.12-3

travels on Mission, Ninth and Tenth Streets. Nine SAMTRANS lines serve the project vicinity. The nearest SAMTRANS stops are located at Ninth/Mission Streets (for inbound traffic) and Tenth/Howard Streets (for outbound traffic). The CalTrain terminal, which serves San Mateo and Santa Clara Counties, is located at 4th and Townsend Streets. CalTrain passengers must transfer to MUNI Line 42 to access the project vicinity.

The characteristics of the regional transit operators during the PM peak hour in the outbound direction are described below and summarized in Table 4.12-6 (refer to Section 4.12). This table presents the one-way fare, the frequency (per line for bus routes), the maximum load point, the aggregate capacity and existing ridership data during the PM peak hour and the resulting load factor.

Table 3.12-1. Existing Muni Characteristics
PM Peak Hour - Outbound

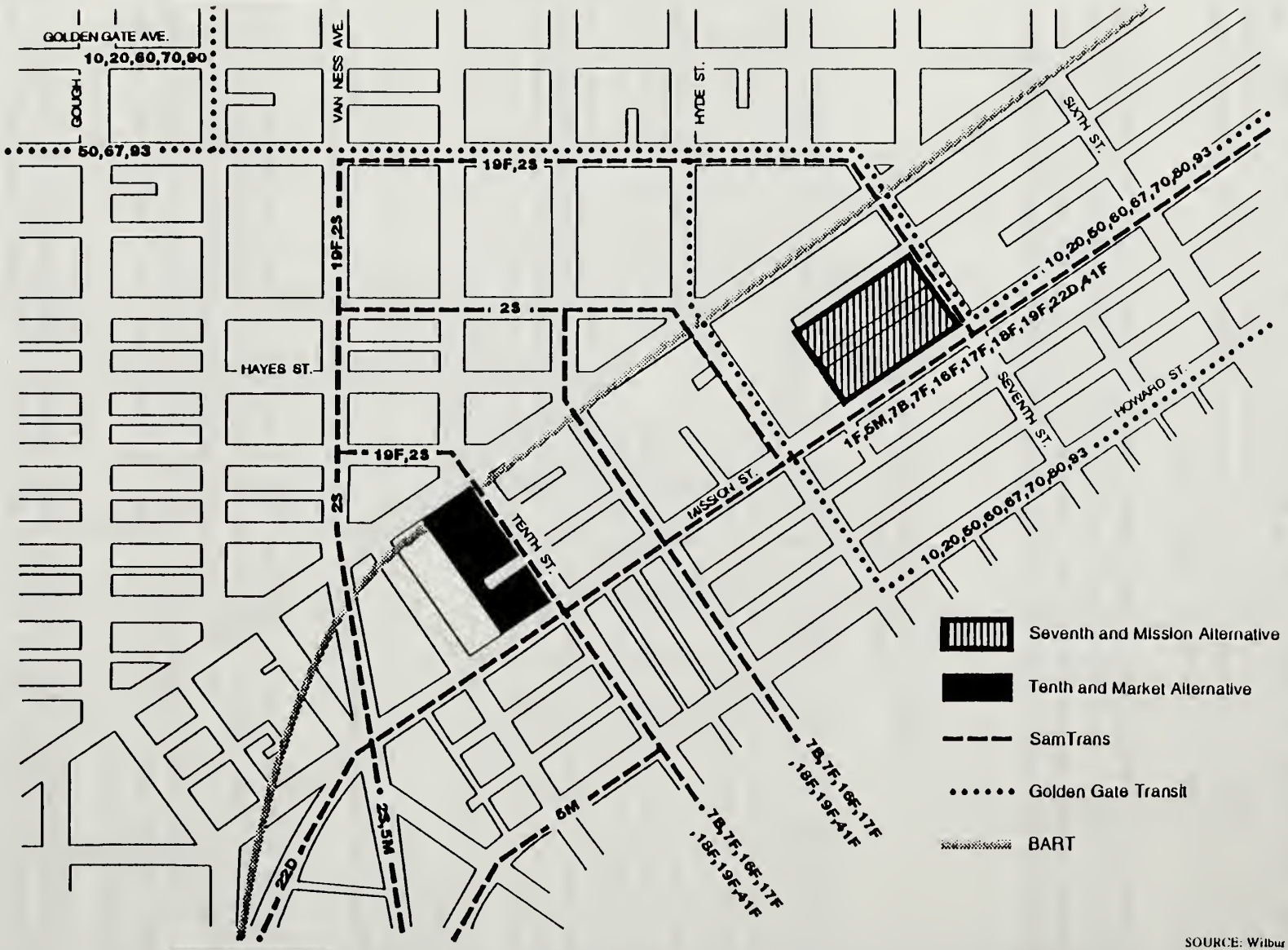
Line	Frequency PM Hour	Average Demand[1]	Capacity (seated)	Load Factor	Peak Load Location	Capacity Load Factor	Handi-capped Access	LOS
Line								
J	6	820	680	1.21	Van Ness Station	1.85	Yes	N/A
K	12	424	340	1.25		1.80	Yes	N/A
L	6	963	680	1.42		1.80	Yes	N/A
M	12	494	340	1.45		1.80	Yes	N/A
N	6	938	680	1.38		1.80	Yes	N/A
Corridor								
NE[3]	—	1,052	1,093	0.96	Varies	1.30 - 1.55	No[3]	C
NW	—	2,307	2,771	0.83	Varies	1.30 - 1.55	No	C
SW	—	1,698	1,620	1.05	Varies	1.55	No[3]	D
SE	—	144	160	0.90	Valencia/ 16th	1.55	Yes	C

* = Inbound
(1) = Passengers per hour.
(2) = Except for Line 42
(3) = Except for Lines 8 and 71L

Source: Wilbur Smith Associates, October 1995

BART service to the East Bay has the highest load factor of all the regional carriers. During the PM peak hour in the outbound direction, the load factor is 1.25. BART's official policy for the maximum load factor is 1.15. The minimum headways through the Transbay tube are 2.5 minutes. When the Dublin line enters service (approximately Fall, 1996) the average headway service will be reduced from 3.3 to 2.72 minutes in the peak hour. The capacity would increase to approximately 15,840.

In the southbound direction (Daly City line), BART operates under capacity with a load factor of 1.03 compared to the policy of a 1.15 maximum load factor. The planned extension to Colma is under construction, but will not add additional capacity during the peak hour to the system.



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SOURCE: Wilbur Smith Associates

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REGIONAL TRANSIT SERVICE

SAN FRANCISCO FEDERAL BUILDING
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Figure 3.12-4

When the Dublin and Colma extensions are in service, there will be additional but unknown demand increases.

The bus and ferry operators all maintain policies of a maximum load factor of 1.00. AC Transit currently has an aggregate PM peak hour load factor of 0.61. SAMTRANS currently has an aggregate PM peak hour load factor of 0.60. Golden Gate Transit buses have an aggregate PM peak hour load factor of 0.70. Golden Gate ferries (Sausalito and Larkspur) have load factors of 0.40 and 0.62 respectively. Red and White ferries (Tiburon and Vallejo) have load factors of 0.20 and 0.33, respectively.

CalTrain currently carries 2,623 passengers during the PM peak hour in the outbound direction. There are six southbound trains during the PM peak hour. The aggregate load factor is 0.64. CalTrain does not have a maximum load factor policy, but every passenger has a seat and there is ample seating available for additional passengers.

Pedestrian/Bicycle Circulation

The sidewalk width on Market Street is 26 feet on both the north and the south sides. The sidewalk width on Tenth Street is 10 feet on both the east and west sides. The sidewalk width on Mission Street is 15 feet on the north side and 15.5 feet on the south side.

Pedestrian and bicycle counts were made at the following two intersections for this study, due to the high volumes of pedestrians at these locations and their proximity to the project entrance:

- Tenth Street/Market Street, and
- Van Ness Avenue/Market Street.

Counts were made of the pedestrian and bicycle activity in the crosswalks at each intersection. Directional counts were also made of bicycle activity on the sidewalks, and turning movement counts were made of the bicycle activity using the street. The counts were made during the PM peak period. The PM peak 15-minute period of pedestrian activity at both intersections occurs from 5:00 p.m. to 5:15 p.m.

A detailed pedestrian analysis was conducted at two intersections. Pedestrian levels of service were calculated using the *Highway Capacity Manual* (HCM) and *Urban Space for Pedestrians*. For pedestrian crosswalks, pedestrian flow rates, or the number of pedestrians passing a point per unit of time, are the basis for the level of service designation. The flow rate is calculated using the width of the crosswalk and the number of pedestrians using the crosswalk per peak 15-minute period. Qualitatively, the level of service indicates "the freedom to choose desired speeds and to bypass others." Table F-1 in Appendix F shows the qualities associated with each level of service designation.

The level of service calculations indicate that the crosswalks at both intersections operate at an acceptable level, that is, free-flowing with little restriction in the choice of speeds. Because the width of the crosswalks at these intersections ranges from 26 to 35 feet, they are able to satisfactorily accommodate the large volumes using the crosswalks. These pedestrian operations are summarized in Table 4.12-7 (refer to Section 4.12).

At Tenth Street/Market Street, the north crosswalk (crossing Polk Street) and the south cross walk (crossing Tenth Street) are utilized by the heaviest pedestrian volumes (240 and 250 pedestrians, respectively, during the peak 15 minutes, and 700 and 850 pedestrians, respectively, during the PM peak hour). At Van Ness Avenue/Market Street, the north, south and east crosswalks operate with the heaviest volumes (556, 451, and 452 pedestrians during the PM peak hour, respectively).

Detailed bicycle counts during the p.m. peak hour were conducted at two intersections: Van Ness Avenue/Market Street and Market Street/Tenth Street. Bicyclists were counted as they made turning movements through the intersections, in the same manner that vehicles are counted. In addition, the bicyclists that were riding on the sidewalk were counted separately. Since sidewalk bicyclists are particularly susceptible to accidents, it was felt that this behavior was worth recording. It should be noted that at both locations, only a few of the observed bicyclists were bicycle messengers.

At Market Street and Van Ness Avenue, there were a total of 165 bicycles per hour entering the intersection. The heaviest movement was the westbound through movement with 93 bicyclists. There were also nine left turning and three right turning bicyclists at the westbound approach.

The eastbound through movement had 27 bicyclists, the northbound approach had a total of 18 bicyclists (three turning left, nine proceeding straight and six turning right) and the southbound approach had nine through, six right-turning, and no left-turning bicyclists. In addition, there were 21 southbound bicyclists who were riding on the easternmost sidewalk (wrong-way riding) and crossed in the crosswalk, 15 westbound bicyclists who were riding on the southern sidewalk (wrong way) and who crossed in the crosswalk, and six westbound bicyclists who were riding on the northern side and who crossed in the crosswalk. Finally, there were six northbound bicyclists on Van Ness Avenue who were riding on the east side and who turned right onto Market Street.

At Market and Tenth Street during the peak hour, there were 84 westbound through bicyclists and no westbound turning bicyclists. Quite a few of these westbound through bicyclists chose to cross the street through the crosswalk rather than remain in the travel lane. There were nine additional westbound bicyclists and 15 eastbound (wrong-way) bicyclists crossing in the northern crosswalk. Traveling eastbound on Market Street there were 12 through and 9 right-turning bicyclists. There were also 3 eastbound and 12 westbound (wrong-way) bicyclists traveling in the southern crosswalk. On Tenth Street, there were 12 southbound bicyclists, (six through,

three right-turning and three left-turning bicyclists). There was also one wrong-way rider in both the eastern and the western crosswalks.

As the numbers indicate, there are considerable numbers of bicycle commuters using the Market Street corridor. Most ride on Market Street itself alongside motor vehicle traffic, but a notable few ride on the sidewalks both with and against traffic.

The nearest public garages were surveyed as to their bicycle parking policies. Both the Fox Plaza Garage at 1390 Market Street and the San Francisco Mart Garage at 1375 Market do not have bicycle parking for public use. There is an existing bicycle rack for up to six bicycles on Market Street just west of Tenth Street in front of the existing building on the site.

Off-Street Parking

For off-street vehicle parking, an area of a 0.25-mile radius, or about two blocks, around the project site was examined. The existing parking data is summarized in Table 3.12-2. On the north side of Market Street, there are five commercial parking facilities located within two blocks of the project site. The occupancy of these lots ranges from 100 to 50 percent peak occupancy for a typical weekday. The Civic Center Garage, located between Larkin,

Table 3.12-2. Commercial Parking Facilities Within Tenth and Market Vicinity

Number of Spaces	Occupancy	Spaces Available	Address
129	100%	-0-	100 Larkin Street
800	50%	400	Civic Center Garage
60	100%	-0-	100 Hayes Street
400	64%	145	1390 Market Street
64	78%	14	69 Polk Street
155	96%	6	66 9th Street
20	100%	-0-	1513 Mission Street
54	65%	19	1525 Mission Street
44	82%	8	1270 Mission Street
189	82%	34	55 9th Street
42	100%	-0-	1255 Mission Street
26	96%	1	1263 Mission Street
110	74%	29	750 Minna Street
48	60%	19	146 8th Street

Source: SFDCP, Parking Survey Data, 1993.

McAllister, Grove and Polk Streets, is the largest facility, with 400 parking spaces, and typically reaches 50 percent peak occupancy.[2]

On the south side of Market Street, there are nine parking facilities with spaces available to the general public within the project vicinity. Peak occupancy for these lots ranges from 60 to 100 percent for a typical weekday.[3]

On-Street Parking

On-street parking in a two-block radius of the site was surveyed in September 1995. The detailed summary is contained in Appendix F. There are numerous categories of onstreet parking including metered parking (30 minute, 1 hour, 2 hour, 30 minute yellow, 10 hour motorcycle), painted curbs (yellow loading, white loading, green curb, blue handicapped) and other parking. The most common type of onstreet parking category is the 1 hour meter. There were 206 one-hour meter spaces north of market and 289 one-hour meter spaces south of Market Street. These were occupied by 151 and 179 vehicles, respectively. On an aggregate basis, there appears to be sufficient onstreet parking for all categories of curbside parking.

3.12.2 Site-Specific Setting

The description of local and regional roadways presented in Section 3.12.1 above is applicable to the proposed alternatives. Traffic volume and level of service information as well as parking data for each alternative is described below. The intersections studied in this analysis were chosen in consultation with the City of San Francisco. A different, but overlapping set was analyzed for each alternative studied.

A. Tenth and Market Alternative

Existing volumes at nine study intersections were determined by Wilbur Smith Associates, who conducted traffic counts during January 1994. Those intersections are the following:

- Market Street/Van Ness Avenue
- Market Street/9th Street
- Market Street/10th Street
- Mission Street/9th Street
- Mission Street/10th Street
- Mission Street/11th Street
- Mission Street/Van Ness Avenue
- Fell Street/Van Ness Avenue
- Hayes Street/Van Ness Avenue

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[2] "1991 Downtown Parking Survey," City of San Francisco, Department of City Planning.

[3] Ibid.

Peak period traffic counts were conducted between 4 and 6 p.m. at all nine intersections. The peak hour was then determined for each individual intersection (Traffic studies in San Francisco typically do not analyze the a.m. peak period, per the *Guidelines for Environmental Review: Transportation Impacts*, Department of City Planning, July 1991).

The existing peak hour counts are presented in Figure F-1 in Appendix F. The existing geometry of the intersection is depicted in Figure F-2 in Appendix F. The level of service (LOS) was determined using the methodology described in Circular 212 of the Transportation Research Board. A description of the methodology is presented in Appendix F. This method analyzes the conflicting movements at the intersection and determines the volume-to-capacity ratio (V/C ratio) of the intersection. The V/C ratio is related to the level of service by a scale with a range from LOS A to F. LOS A represents free flow conditions with little or no delay, and LOS F represents jammed conditions. A more detailed description of the various intersection levels of service is presented in Figure F-3 in Appendix F.

The results of the intersection capacity analysis at the nine study intersections are summarized in Table 3.12-3 and are depicted on Figure F-1 in Appendix F. Detailed analysis of the intersection level of service is also presented in Appendix F.

Table 3.12-3. Existing Intersection Levels-of-Service - PM Peak Hour Tenth and Market Alternative Site

	Intersection		Existing	
	North-South Street	East-West Street	V/C	LOS
1	Van Ness Ave.	Hayes St.	0.84	D
2	Van Ness Ave.	Fell St.	0.68	B
3	Van Ness Ave.	Market St.	0.71**	C
4	S. Van Ness Ave./12th St.	Mission St./Otis St.	0.84	D
5	11th St.	Mission St.*	0.83	D
6	10th St.	Mission St.*	0.88	D
7	9th St.	Mission St.*	0.86	D
14	9th St./Larkin St.	Market St./Hayes St.	0.77	C
15	10th St./Polk St.	Market St/Fell St.	0.64	B

* Analysis assumes PM peak period lane configuration, i.e. curbside lane as diamond lane for buses and right-turns only. The diamond lane configuration reduces the capacity of these intersections. Thus, the volume-to-capacity (V/C) ratios at these intersections can be considered worst case, as not all vehicles comply with the diamond lane designation.

** The operation of the intersection is adversely impacted by the conditions at Van Ness/Hayes. The traffic on the third northbound through lane on Van Ness cannot freely flow north of Market Street due to the long queue for the northbound left-turn movement at Van Ness/Hayes. While the traffic volumes flowing through this intersection correspond to level-of-service (LOS) C, the actual delay experienced by the vehicles is closer to LOS D.

Source: Wilbur Smith Associate, April 1994.

Five of the nine intersections are operating at LOS D (increased restrictions, substantial delays):

- Van Ness Avenue and Hayes Street
- Van Ness Avenue and Mission Street
- Mission Street and Eleventh Street
- Mission Street and Tenth Street
- Mission Street and Ninth Street

Two intersections, Market Street/Van Ness Avenue and Market Street/Larkin Street/Ninth Street, are operating at LOS C (good conditions). The remaining two intersections are operating at LOS B (very good conditions): Van Ness Avenue/Fell Street and Market Street/Tenth Street/Fell Street/Polk Street.

Three of the intersections that are operating at LOS D are on Mission Street, which designates the curbside lane for right turns and buses only during the PM peak hour. The capacity analysis assumed, therefore, that the two existing lanes in each direction are essentially used as one through lane and one right-turn-only lane. This restriction substantially reduces the capacity of these intersections for regular traffic (The restriction is intended to improve the flow for transit vehicles, which indirectly encourages the use of transit). If both lanes were available for through traffic during the PM peak hour, the intersection operation would improve to LOS B (V/C ratio = 0.63) at Mission Street/Eleventh Street, LOS C (V/C ratio = 0.71) at Mission Street/Tenth Street, and LOS B (V/C ratio = 0.64) at Mission Street/Ninth Street. Since the restriction is not universally obeyed, some through traffic does use the curbside lane. Thus, in reality the effective V/C ratio is probably somewhere in between the two values for each intersection.

The volume of traffic at the intersection of Market and Van Ness equates to a LOS C. However, the intersection operation at Market and Van Ness is affected by the queue for the northbound left turn at Van Ness and Hayes. This queue reduces the effectiveness of the third northbound through lane north of Market Street, causing increased delay at Market and Van Ness over what would be expected for a LOS C operation. The back up caused by the northbound left-turn on Van Ness at Hayes particularly affects the northbound movement at Market and Van Ness such that its defacto LOS is approximately LOS D.

The existing delay at Market/Van Ness can be improved by adjusting the signal timing at Van Ness and Hayes during the PM peak hour. Currently, the level of service for the latter intersection as a whole is LOS D. To evaluate the intersection in more detail, the Highway Capicity Manual (HCM) methodology was used, which accounts for the signal timing allocated to each phase. Using this methodology, the overall intersection operation is also LOS D, but the northbound left-turn movement is LOS F, with a delay in excess of 300 seconds. By shifting 5 seconds from the southbound through phase to the northbound left-turn phase, the LOS for the northbound left-turn lane improves dramatically to LOS D with a delay of only 30 seconds.

This improvement would increase the effective capacity of the intersection of Market Street and Van Ness Avenue as well, since the queue for the northbound left-turn vehicles at Van Ness Avenue and Hayes Street would be substantially shorter. The LOS for the southbound through movement would be slightly affected; its LOS would change from LOS B to LOS C.

There are currently no public parking areas located on the block that contains the Tenth and Market Alternative site. Three parking areas designated for use by employees (249 parking spaces) and customers (57 parking spaces) of existing businesses on the site are, however, located across Tenth Street. The existing parking lot occupancies are depicted in Table 3.12-2, above.

B. Seventh and Mission Alternative

Six study intersections were analyzed for the Seventh and Mission Alternative site. These intersections are:

- Market Street/Eighth Street
- Market Street/Seventh Street
- Market Street/Sixth Street
- Mission Street/Eighth Street
- Mission Street/Seventh Street
- Mission Street/Sixth Street

Peak hour counts from 4:30 - 5:30 p.m. were performed or obtained for these intersections. The PM peak counts and existing lane geometries are depicted in the impact analysis on Figures F-4 and F-5 in Appendix F. The calculations of the intersection levels of service are contained in Appendix F.

The following intersections operated at LOS E which is considered unacceptable:

- Mission Street/8th Street
- Mission Street/ 6th Street

The Mission Street/Seventh Street intersection operated at LOS B, which is considered very good conditions.

The following four intersections operated at LOS A, which is considered free-flow conditions:

- Market Street/8th Street
- Market Street/7th Street
- Market Street/6th Street
- Mission Street/9th Street

For off-street vehicle parking, an area of a 0.25-mile radius, or about two blocks, around the Seventh and Mission Alternative site was examined. This parking data is summarized in Table 3.12-4. There are considerably more parking lots near the Mission/Seventh Street site than near the Market/Tenth Street site. There are 36 commercial parking facilities available to the public located within two blocks of the project site. Thirteen of these lots are north of Market Street and the remainder are south of Market Street. The size of the 36 lots range from 20 spaces to 500 spaces. Thirteen lots have 100 or more spaces while 17 have 50 or fewer spaces.

The occupancy of these lots ranges from 5 to 100 percent peak occupancy for a typical weekday. Many lots are at 90 to 95 percent occupancy while many other lots are 35 percent or less occupied.

The garage located at 1268 Folsom Street is the largest facility, with 400 parking spaces, and typically reaches 80 percent peak occupancy.[4] Overall, these 36 lots have 1,012 vacant parking spaces.[5]

C. Purchase Alternative

Because a specific location for the Purchase Alternative has not been identified, specific traffic conditions for this alternative cannot be quantified.

D. Lease Alternative

Because a specific location for the Lease Alternative has not been identified, specific traffic conditions for this alternative cannot be quantified.

E. No Action Alternative

Existing federal office would continue to be used and none of the other alternatives would be implemented.

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[4] "1991 Downtown Parking Survey," City of San Francisco, Department of City Planning.

[5] Ibid.

Table 3.12-4. Commercial Parking Spaces Within Vicinity of the Seventh/Mission Alternative Site

Total Number of Spaces	Number Occupied	Percent Occupancy	Spaces Available	Address
189	155	82%	34	55 9th Street
129	129	100%	0	100 Larkin St.
500	400	80%	100	1268 Folsom St.
52	39	75%	13	1028 Howard St.
132	86	65%	46	469 Stevenson St.
26	25	96%	1	1263 Mission St.
20	1	5%	19	1014 Mission St
15	4	27%	11	130 Turk St.
37	15	41%	22	242 Turk St.
110	81	74%	29	750 Minna St.
77	41	53%	36	111 Jones St.
21	20	95%	1	201 Hyde St.
36	35	97%	1	1104 Mission St.
110	67	61%	43	365 Eddy St.
56	50	89%	6	155 Eddy St.
100	74	74%	26	19 Mason St.
44	11	25%	33	1183 Mission St.
40	14	35%	26	529 Minna St.
43	41	95%	2	539 Minna St.
50	47	94%	3	NA
250	191	76%	59	528 Natoma St.
29	22	76%	7	54 Mint St.
30	29	97%	1	421 Turk St.
30	9	30%	21	132 Jones St.
115	90	78%	25	1066 Market St.
125	72	58%	53	330 Larkin St.
346	290	84%	56	670 Stevenson St.
225	80	36%	145	67 Turk St.
280	180	64%	100	252 5th St.
77	30	39%	47	216 5th St.
51	45	88%	6	1101 Howard St.
48	29	60%	19	146 8th St.
42	42	100%	0	1255 Mission St.
50	45	90%	5	65 Moss St.
44	36	82%	8	1270 Mission St.
58	50	86	8	NA
3,587	2,575	--	1,012	TOTAL

3.13 HAZARDOUS SUBSTANCES

This section addresses the potential for hazardous substances in the vicinity of the alternative sites, within a radius of approximately one city block.

Hazardous substances have been defined by the State of California as:

> *"... a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to, an increase in mortality or increase in serious irreversible, or incapacitating reversible, illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed"* (Title 22, California Code of Regulations [CCR], Section 66084).

Once a hazardous material is ready to be discarded, it becomes a hazardous waste. In addition, hazardous wastes occasionally may be generated by actions that change the composition of previously nonhazardous materials. The same criteria that render a material hazardous (i.e, toxicity, ignitability, corrosivity, reactivity) also make a waste material hazardous.

However, "hazardous waste" is a loosely used term often referring to any contaminated substances. Most contamination present in soil and ground water, especially relating to petroleum hydrocarbon contamination, can be classified as nonhazardous. Both hazardous and nonhazardous (but contaminated) materials pose a potential health threat and, therefore, should be treated as potential impacts to future development or uses at the site. For the purpose of this report, "hazardous substances" refers to wastes and materials that could be classified as hazardous or nonhazardous (but contaminated).

3.13.1 Regional Setting

Conditions related to hazardous substances, as discussed in this section, are site-specific in nature and are addressed below.

3.13.2 Site-Specific Setting

A. Tenth and Market Alternative

Unless otherwise indicated, the following information is based on a report prepared by Baseline Environmental Consulting, titled *Phase I Site Assessment, Tenth and Market Streets, Block 3507, Parcels 3-6, 9, 30, 37, San Francisco, California,* dated August 1993. Refer to this report in Appendix G - Phase I Site Assessment Report for more specific information regarding past and present site uses and methods of data generation.

Onsite Land Uses. The property is currently occupied by six commercial/retail buildings, two to four stories in height, and associated parking areas. The southeast portion of the property is currently vacant. Historical onsite land use has included industrial, commercial, and residential.

Commercial uses, such as retail sales and offices, generally increased after the 1930s. Most recently, the vacant area in the southeast portion of the property was used as an automobile fueling facility and service station and as a carwash (see Figure 3.13-1).

Primary potential contaminants of concern associated with previous land uses onsite include:

Creosote - Sometimes associated with lumberyard activities (see Figure 3.13-2 - Sanborn Map - 1899, Figure 3.13-3 - Sanborn Map - 1913, and Figure 3.13-4 - Sanborn Map - 1949)

Petroleum Products - Auto dealerships, repair, service stations, and parking facilities (see Figures 3.13-1, 3.13-2, 3.13-4)

Solvents - Auto painting, auto repair (see Figure 3.13-2 and 3.13-4)

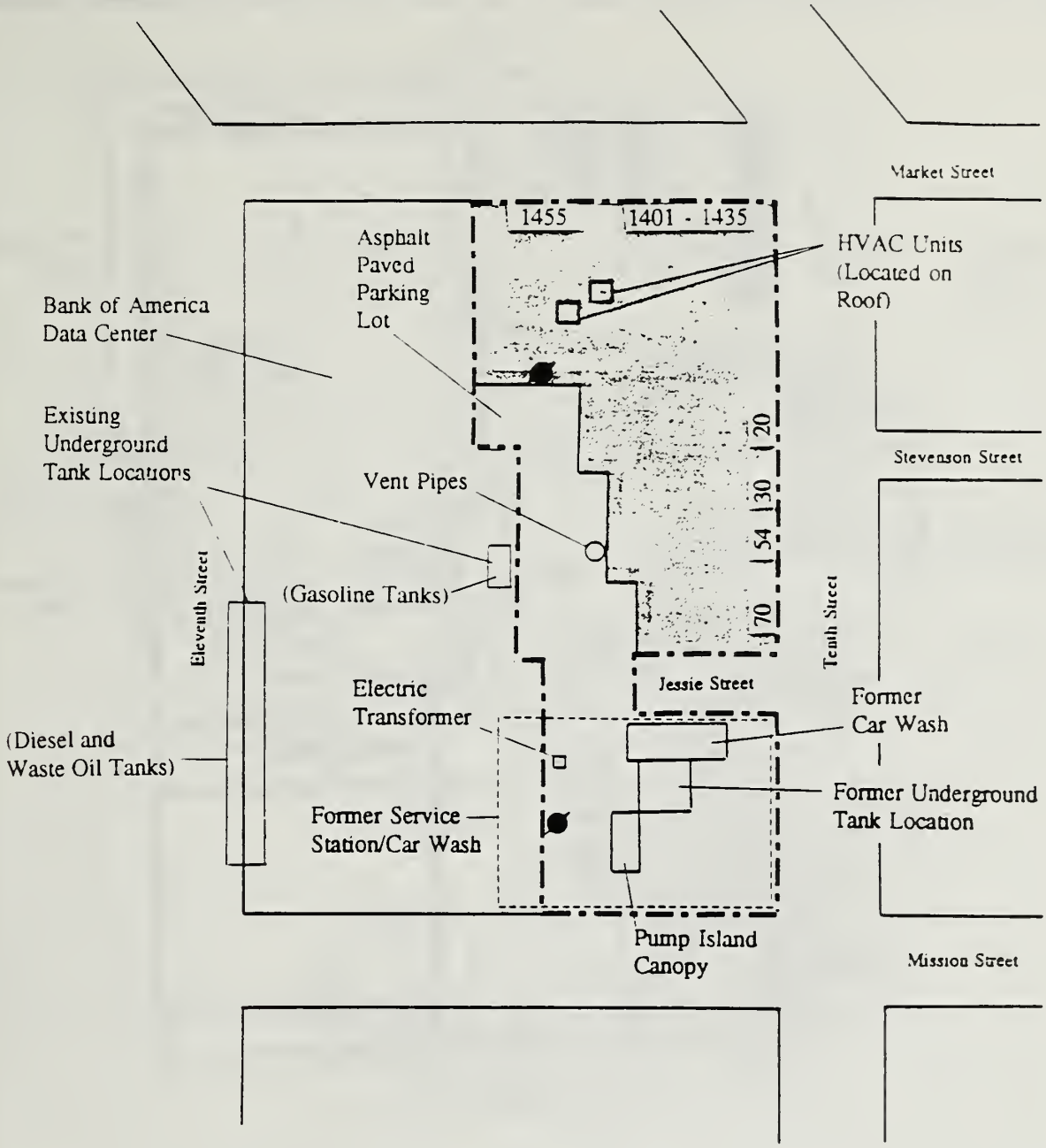
Metals - Auto painting, paint pigments, polychlorinated biphenyls (PCBs) from transformers. Additionally, the results of the Phase I Environmental Site Assessment indicated a layer of artificial fill at depths of 12 to 15 feet. Similar fill material historically observed in the site vicinity has often been found to contain elevated total lead concentrations (see Figures 3.13-1, 3.13-2 and 3.13-4).

Offsite Land Uses. Offsite land uses, within one city block of the property, generally included industrial, commercial, residential, and recreational uses until the 1980s. A fire station was located to the immediate west of the site. Offsite land uses in the 1980s were dominated by offices, retail, and commercial services. Potential contaminants of concern associated with previous offsite land uses include:

Petroleum Products - Oil storage, auto repair, service stations, parking facilities, commercial manufacturing (see Figures 3.13-3 and 3.13-4)

Solvents - Printing, machine shop, paint, auto repair (see Figures 3.13-3 and 3.13-4)

Metals - Printing, paint, machine shop, iron works, aluminum fabricator (see Figure 3.13-3)



Legend

Area Covered by Two-and Four-Story Buildings

Project Site Boundary

Drum Storage Area

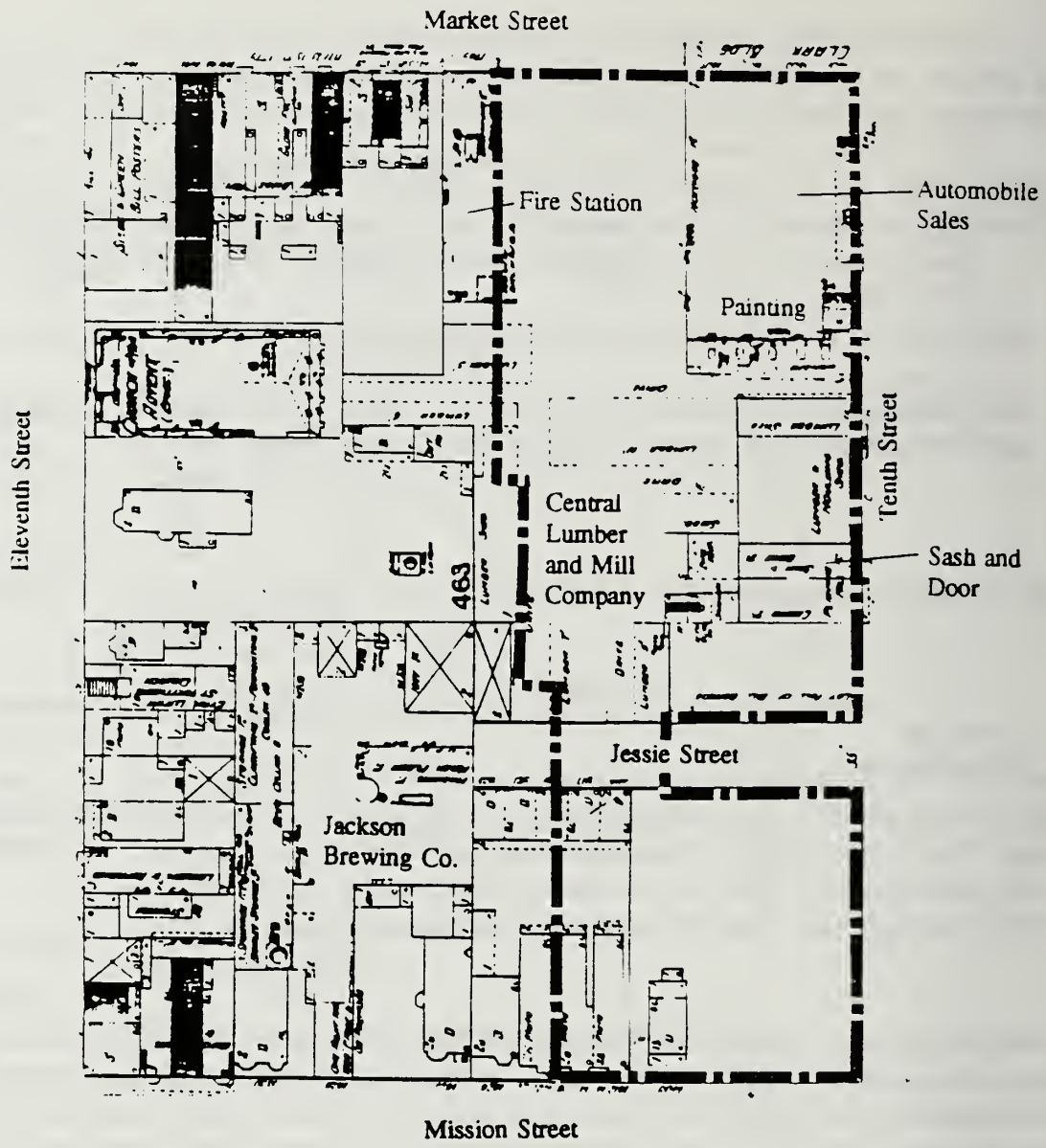
0 130 Feet

SOURCE: Baseline Environmental Consulting, 1993

SITE PLAN AND CURRENT LAND USES TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-1



Legend

Project Site Boundary

Approximate

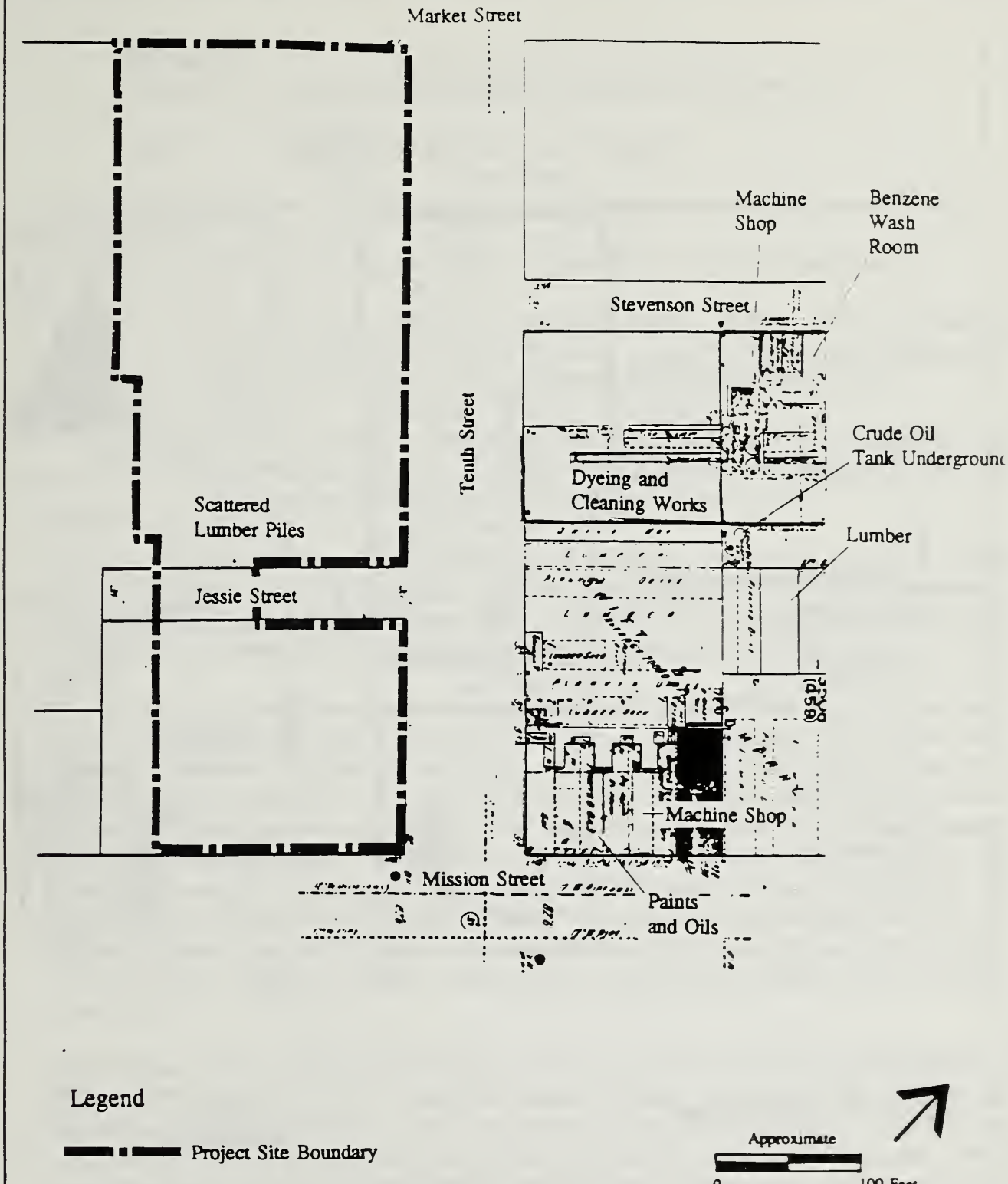
0 100 Feet

SOURCE: Baseline Environmental Consulting, 1993

SANBORN MAP -1899
TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-2

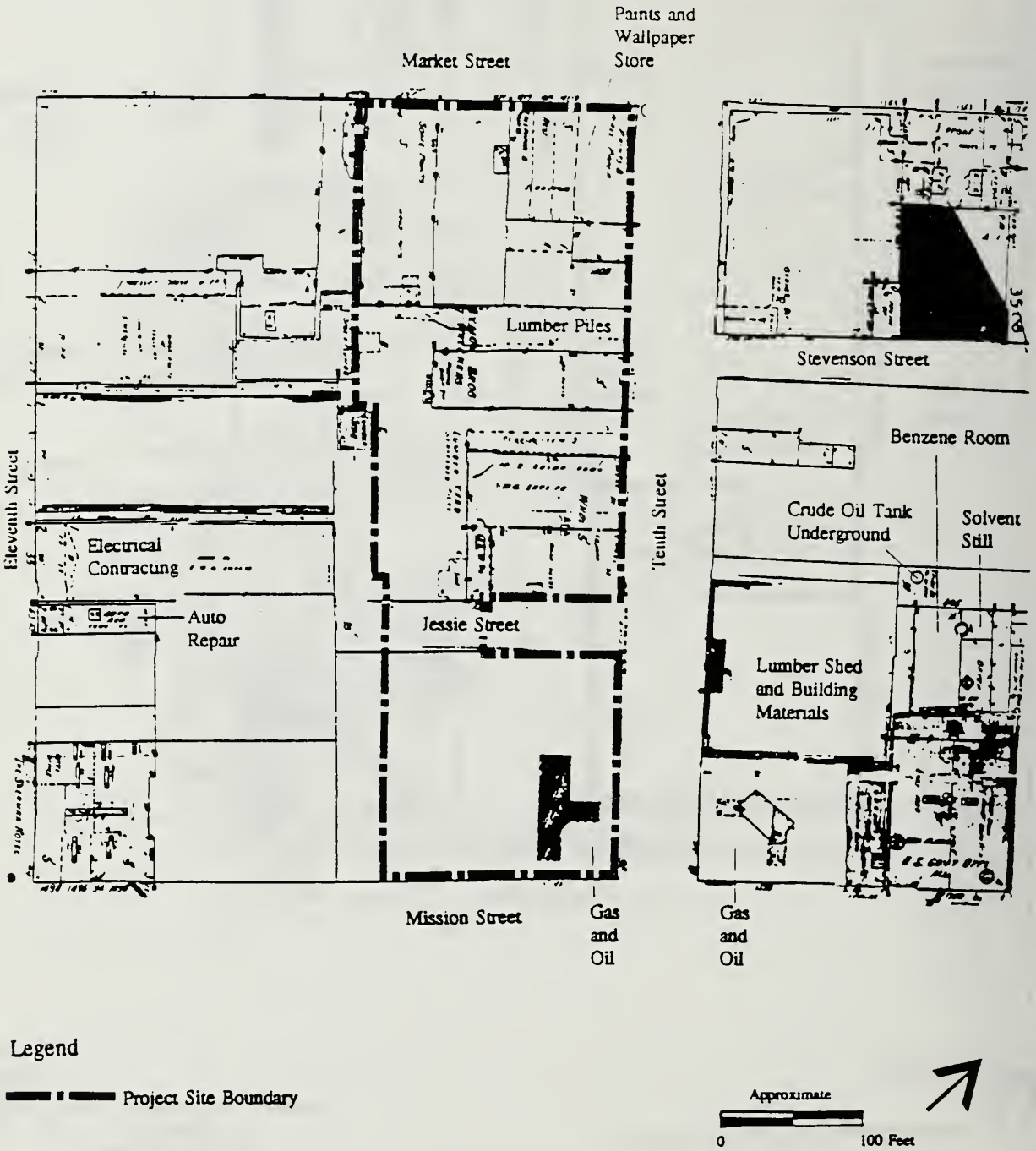


SOURCE: Baseline Environmental Consulting, 1993

SANBORN MAP -1913
TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-3



SOURCE: Modified after Baseline Environmental Consulting, 1993

SANBORN MAP -1949
TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-4

Polynuclear
Aromatics - Wood coal and oil storage (see Figures 3.13-3 and 3.13-4)

Other - Soda and ash associated with fire station

Current Onsite Conditions. Current onsite uses of potential environmental concern include:

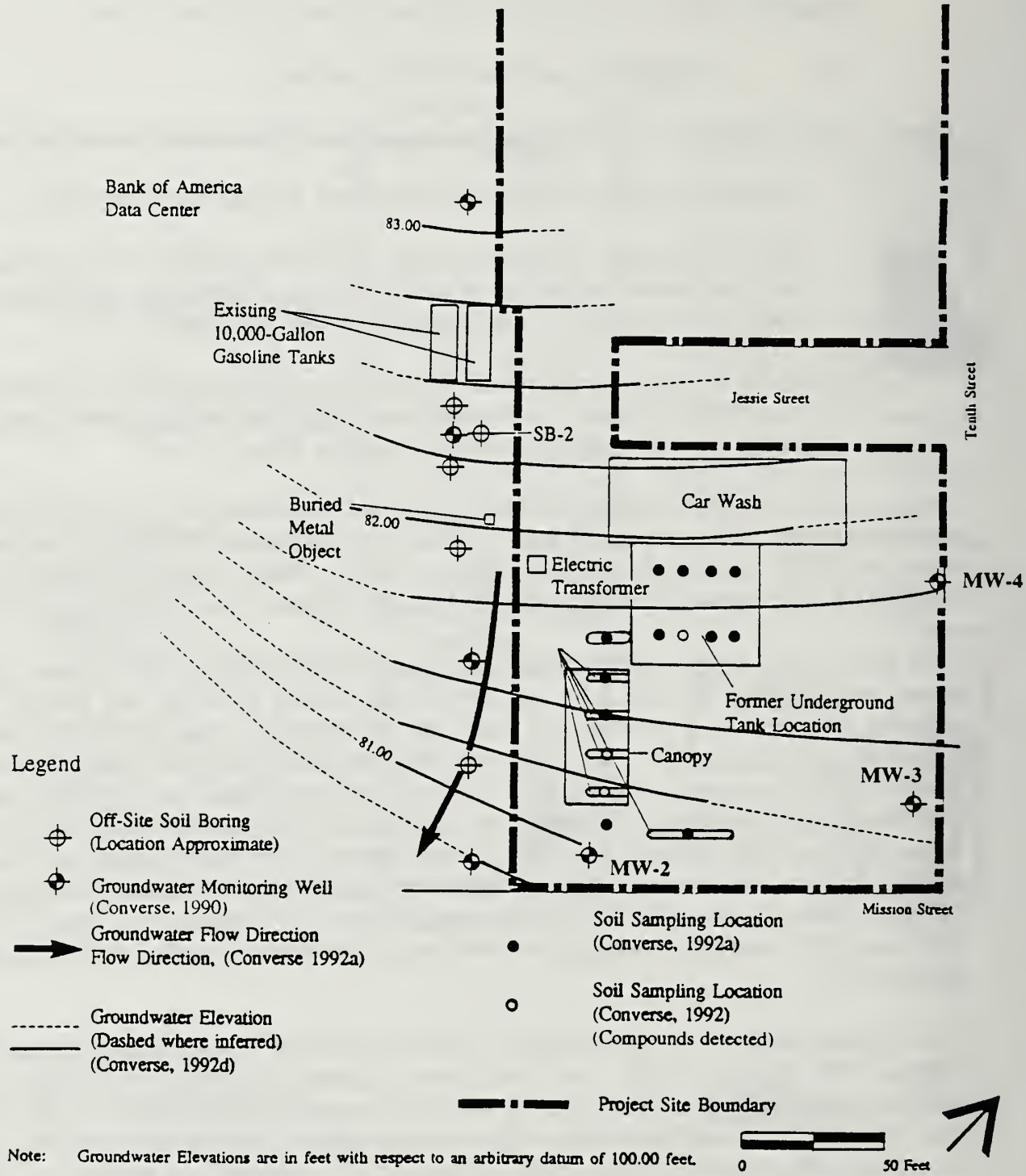
- Potential hazardous chemicals associated with a photo processing service.
- Paint, wax stripper, and chemicals used in heating, venting, and air conditioning units are present on the roof of buildings onsite. Fluorescent light ballasts and electrical transformers onsite may contain PCBs (see Figure 3.13-1).
- Seven 55-gallon drums are stored onsite. One drum may contain solvents, one drum contains unknown substances, and five drums contain materials generated during previous subsurface investigations (see Figure 3.13-1).

Previous Onsite Conditions. Bank of America is the current owner of the Tenth and Market Alternative site. Soil and ground water investigations associated with Bank of America's underground tank replacement program began in October 1990. These investigations were completed for the tanks formerly located in the southern portion of the site (see Figure 3.13-5).

Four 10,000-gallon gasoline underground storage tanks (USTs) and associated piping and pump islands were removed in 1992. As part of the tank removal activities, soil samples were collected from the tank excavation and below the pump islands. Soil samples collected in association with the removal of the USTs and associated piping and pump islands contained gasoline and volatile organic compounds (VOCs) above the level of detection, indicating releases from former tank operations. Total petroleum hydrocarbons (TPH) identified as gasoline, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in two of five soil samples collected from beneath the pump islands. Xylenes were detected in one of eight soil samples collected from the UST excavation area following UST removal (see Table 3.13-1). TPH and BTEX were not detected at concentrations in excess of the applied action concentrations for soil.

Three ground water monitoring wells (MW-2, MW-3, and MW-4) were constructed onsite in October 1990 (Figure 3.13-5)[1]. Analytical results indicated the presence of VOCs in soil samples collected at the locations of MW-3 and MW-4, collected from depths of 10 and 15 feet (see Table 3.13-1). Analytical results of ground water samples collected from the three onsite monitoring wells, between October 1990 and March 1993, indicated the presence of VOCs, diesel fuel, and an unidentified hydrocarbon compound. The diesel fuel and unidentified compound were only detected in two of nine sampling events in hydrogeologically downgradient

[1] Monitoring wells listed are onsite. MW-1, MW-6, and MW-7 are located offsite.



Note: Groundwater Elevations are in feet with respect to an arbitrary datum of 100.00 feet.

SOURCE: Modified after Baseline Environmental Consulting, 1993

PREVIOUS INVESTIGATION SAMPLING LOCATIONS
TENTH AND MARKET ALTERNATIVE

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-5

Table 3.13-1. Analytical Results of Previous Onsite Soil and Ground Water Investigations at Tenth and Market Streets

Location	Date	Contaminant[1]	Concentration[1]		Depth (feet)	Monitoring Period
			mg/kg	mg/L		
SOIL						
Tank Pit (3-S)[2]	1/91	Xylenes	0.0083		Base of tank excavation	
Pump Island #12[2]	1/91	TPH-g	1.5		Below product line	
		Benzene	0.020			
		Ethylbenzene	0.033			
		Toluene	0.097			
		Xylenes	0.220			
Pump Island #13[2]	1/91	TPH-g	94		Below product line	
		VOCs	ND			
MW-2[3]	11/90	TPH-g, TPH-d, Motor Oil, VOCs	ND		5,15	
MW-3	10/90	TPH-g, TPH-d, Motor Oil, Benzene	ND		5, 10, 15	
		Toluene	0.001		10	
		Toluene	ND		15	
		Ethylbenzene	0.026		10	
		Ethylbenzene	ND		15	
		Xylenes	0.026		10	
		Xylenes	ND		15	
MW-4	10/90	TPH-g, TPH-d, Motor Oil, Benzene	ND		5, 10, 15	
		Toluene	0.0026		15	
		Toluene	ND		5, 10	
		Xylenes	0.0039		15	
		Xylenes	ND		5, 10	
GROUNDWATER						
MW-2	10/90	Toluene		0.0027		10/90-3/93
		Xylenes		0.0018		
	3/92	Diesel Fuel		0.59		
	9/92	Unknown hydrocarbon		0.05		
MW-3	10/90	Toluene		0.0015		10/90-3/93
	9/92	Unknown hydrocarbon		0.11		
MW-4	10/90	Benzene		0.0010		10/90-3/93
		Toluene		0.0029		
		Ethylbenzene		0.0010		
		Xylenes		0.0038		

Source: Converse Environmental West, 1992a, 1992c, 1991.

ND = Not detected above laboratory detection limits.
VOCs = Volatile Organic Compounds.
TPH = Total Petroleum Hydrocarbons.
TPH-d = Total Petroleum Hydrocarbons as diesel fuel.
TPH-g = Total Petroleum Hydrocarbons as gasoline.
Refer to Figure 3.13-5 for location of borings.

[1] Maximum concentrations shown for each location. All samples analyzed for motor oil, gasoline, diesel,
[2] Eight additional tank pit samples and five pump island samples, analyzed for TPH-g and VOCs, did not contain compounds above laboratory detection limits of 1 mg/kg (TPH-g) and 0.0025 mg/kg (VOCs).
[3] Monitoring wells listed are onsite. MW-1, MW-6, and MW-7 are located offsite.

wells MW-2 and MW-3. VOCs were only detected in the initial sampling event, in all three wells (October 1990). The ground water sample collected at MW-4 in October 1990 indicated benzene concentrations in excess of the applied action concentration for ground water of 0.001 milligrams/Liter (mg/L).

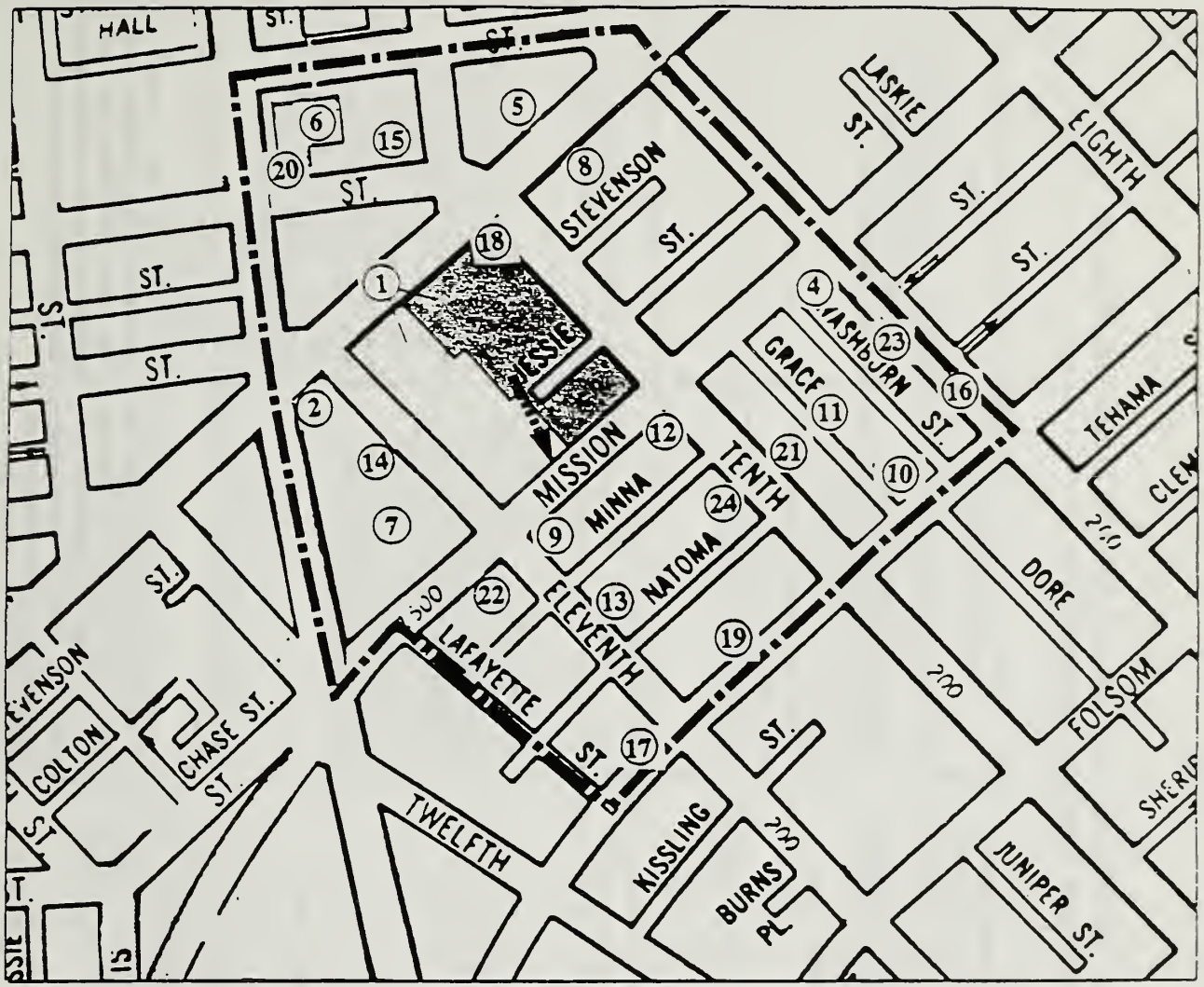
There is no known source of diesel fuel onsite. Diesel fuel constituents in the ground water observed in hydrogeologically downgradient well MW-2 may have an offsite, hydrogeologically upgradient source, or it may be from an unknown onsite source. The VOC-containing soil samples at the site were collected from depths of 10 and 15 feet. Ground water is present at a depth of approximately 17 to 21 feet, and generally flows toward the south-southeast. The VOCs in the soil may be related to VOCs volatilizing from the ground water.

A review of regulatory agency records revealed that one file exists which indicates the presence of potentially hazardous materials at the Tenth and Market Alternative site (Site 18; see Figure 3.13-6). This location, which appears on the Department of Toxic Substances Control (DTSC) Cal-Sites list, references a former occupant of the 1401 Market Street Address (Sherwin-Williams).

The Department of Health Services (DHS, which has been transformed into the DTSC) determined that a preliminary endangerment assessment was required, and the site was designated low priority. DTSC has no records concerning Site 18. Current status of the site is unknown (see Table 3.13-2).

Previous Offsite Conditions. A review of regulatory agency records indicated that six sites are present within one city block of the subject property, in a hydrogeologically upgradient or cross-gradient directions, which may potentially contain hazardous materials (see Figure 3.13-6). Their location up- or cross-gradient from the site raises the possibility that these sites may have released materials that migrated to the Tenth and Market Alternative site. Further testing of the site would be necessary to confirm this.

Site 1, the adjacent Bank of America Data Center property, located to the west of the subject property, is listed with the Regional Water Quality Control Board (RWQCB) Fuel Leaks list and the San Francisco Department of Public Health (SFDPH) files. The files indicated that nine USTs, including six 10,000 to 18,000 gallon capacity diesel fuel tanks and one 500 gallon capacity waste oil tank are located under the 11th Street sidewalk (see Figure 3.13-1). In addition, two 10,000 gallon capacity gasoline tanks are located beneath a parking lot along the east perimeter of the site. The latter tanks were being removed at the same time of a site reconnaissance performed by Fugro West personnel, in November 1993. No other information was reviewed pertaining to these tanks. An unauthorized release of diesel fuel from a UST occurred in March 1989. In addition, an unauthorized release of gasoline and motor oil, from an unknown source, occurred in November 1990. Current status of these releases is unknown.



Legend

Inferred Groundwater Flow Direction (December, 1992) (Converse 1992d)

(22) Site Associated with Potential Hazardous Materials Release

Project Site Boundary

See Table 3.13-2 for Description of Sites

0 500 Feet

SOURCE: Baseline Environmental Consulting, 1993

SITES ASSOCIATED WITH HAZARDOUS MATERIALS RELEASES WITHIN ONE BLOCK OF TENTH AND MARKET ALTERNATIVE

Figure 3.13-6

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Table 3.13-2. Sites Associated With Hazardous Materials Releases Within One Block of Tenth and Market Alternative Site

Site No.	Site/Address	Operations/Actions Involving Hazardous Materials Release	Known Contamination	Status
1	Bank of America 1455 Market Street[2]	Tanks installed in 1978; unauthorized release of diesel fuel from underground tank observed in 3/89; unauthorized release of gas and motor oil from unknown source in 11/90.	Hydrocarbon compound (not definite pattern) detected in ground water at 0.13 mg/L in 3/92; up to 550 mg/kg motor oil, 8.4 mg/kg diesel fuel, 190 mg/kg gasoline, VOCs up to 0.02 mg/kg in soil in 11/90 and 2/92; up to 0.36 mg/L gasoline, 0.018 mg/L VOCs in ground water from 10/90-3/92.	Ground water monitoring performed at one well since 10/90, three wells since 12/90, and four wells since 3/92.
2	Bank of America 1 So. Van Ness Avenue[2]	Two 10,000-gallon underground diesel fuel storage tanks registered with SFDPH.	*<No further information available.>*	
3	Boston Gear Works (address not available)[3]	*<File not available for review>* N/A		
4	Brandtjen & Kluge, Inc. 112 Ninth Street[3]	*<File not available for review>* N/A		
5	Calfox Inc. (Fox Plaza) 1390 Market Street[1,2]	Unauthorized release of gas during tank test in 4/87; two tank test failures in 12/86.	Up to 490 mg/kg diesel fuel in soil on 9/86; up to 66 mg/kg gas, 6,900 mg/kg benzene, 17.0 mg/kg toluene, 37.0 mg/kg xylenes in soil; 590,000 mg/L gas, 32,000 mg/L benzene, 22,000 mg/L toluene, 45,000 mg/L xylenes, 0.022 mg/L ethylene dibromide, 7.4 mg/L total lead in ground water on 10/86.	Ground water monitoring well installed to investigate leakage from diesel fuel tank (no contamination encountered) 12/86. Letter from owner to RWQCB (dated 12/86) requesting permission to abandon diesel fuel tank in place. RWQCB memo (dated 3/90) directing staff to determine whether any additional work done; permit granted by SFDPH to remove three 3,000- to 4,000-gallon gasoline tanks; no further information in file.
6	California State Automobile Association 150 Hayes Street[2]	Unauthorized release from underground gasoline tank during tank test in 9/87.	Unknown	Tank pull and replacement in 11/90; tank tested tight in 11/91.
7	Coca Cola Enterprises West 1500-1560 Mission Street[1]	Not identified in file.	Up to 790 mg/kg gas, 250 mg/kg diesel fuel, 9.6 mg/kg lead in soil; 2.0 mg/L diesel fuel, 1.5 mg/L gasoline, 0.0013 mg/L benzene, 0.00088 mg/L toluene, 0.110 mg/L ethylbenzene, 0.230 mg/L xylenes, 0.025 mg/L total lead in ground water from 6/89 to 11/91.	Ground water monitoring performed from fourth quarter 1989 to fourth quarter 1991. SFDPH certifies completion of removal of 10,000- and 8,000-gallon tanks on 1/92.

Table 3.13-2. (Continued)

Site No.	Site/Address	Operations/Actions Involving Hazardous Materials Release	Known Contamination	Status
8	Easy Washing Machine Corp. 1355 Market Street [3]	*<File not available for review>* N/A		
9	Former Goodyear Tire Store 1475 Mission Street[2]	Applied to remove 500-gallon waste oil tank on 11/86.	*<No further information available.>*	
10	Lima-Hamilton Corp. 1315 Howard Street[3]	*<File not available for review>* N/A		
11	Marathon Auto Repair 77 Grace Street[2]	Stores waste oil onsite in 2/91.	*<No further information available.>*	
12	Mark Morris 1401 Mission Street[2]	Soil investigation performed in 2/91.	Up to 440 mg/kg TPH-g, 0.16 mg/kg toluene, 1.0 mg/kg ethylbenzene, 3.500 mg/kg xylenes in soil; up to 2.0 mg/L xylenes, 0.190 mg/L ethylbenzene, 0.240 mg/L toluene, 250 mg/L TPH-g, 3 mg/L TPH-d in soil water from borings on 2/91.	*<No further information available.>*
13	Moore Machine works 146 Eleventh Street[2]	Unauthorized release of gasoline from underground tank during removal in 7/91.	Up to 0.0086 mg/kg xylenes, 460 mg/kg total lead in excavation soil.	*<No further information available.>*
14	O'Keefe, W.F. Jr. 55 Eleventh Street[3]	*<File not available for review.>* N/A		
15	Park Merced Apartments 1 Fell Street[2]	Approval to remove 550-gallon waste oil tank given 3/89 by SFDPH.	*<No further information available.>*	
16	Precision Bearings, Inc. 173 Ninth Street[3]	*<File not available for review>* N/A		
17	Royal Motors Sales 1525 Howard Street[3]	Tank pull completed 5/87; no further action required.	*<No further information available.>*	
18	Sherwin-Williams 1401 Market Street[3]	*<File not available for review>* N/A		
19	Thor Corp. 1434 Howard Street[3]	*<File not available for review>* N/A		

Table 3.13-2. (Continued)

Site No.	Site/Address	Operations/Actions Involving Hazardous Materials Release	Known Contamination	Status
20	Unknown 100 Van Ness Avenue[2]	Two diesel fuel tanks 2,000 and 1,700 gallons, installed in 1972; monitoring of tanks began in 7/88.	*<Unknown>*	*<No further information available.>*
21	Unknown 135 Tenth Street[2]	Carburetor repair shop stores solvent for parts cleaning.	*<No further information available.>*	
22	Vilo Properties 1501-1517 Mission Street	Eight 70-gallon lube oil tanks pulled, seven 500-gallon waste oil tanks pulled in 12/92.	TPH-g, TPH-d,oil and grease, metals, volatile organic compounds detected in stockpiled soil removed with lube oil tanks; excavation soil samples indicated non-detectable levels of same compounds. Lead detected in waste oil excavation soil at up to 500 mg/kg.	No further investigation or remedial action required by SFDPH on 8/93.
23	Western Manufacturing Co., Inc. 149 Ninth Street[3]	*<File not available for review>* N/A		
24	Whitney Vincent Co. 130 Tenth Street[3]	*<File not available for review>* N/A		

Notes:

Site numbers on table correspond with site numbers on Figure 3.13-6.

TPH = Total petroleum hydrocarbons.
TPH-d = Diesel fuel.
TPH-g = Gasoline.
VOC = Volatile organic compounds.
N/A = Site identified as potential hazardous substance containing site by the Cal-Sites list. This list identifies both known and potential hazardous substance sites. However, files pertaining to this site were not available for review. Files for sites determined to be low priority have been purged from DTSC records.

[1] Source: RWQCB, Fuel Tank Leak Files, 1993.
[2] Source: SFDPH, Hazardous Section Files, 1993.
[3] Source: DTSC, Cal-Sites List, May 7, 1993.

Five soil borings and nine ground monitoring wells were advanced at the Bank of America Data Center site between November 1990 and March 1992. The ground water flow direction (south-southeast) indicates that these soil borings and wells are located (hydrogeologically) cross-gradient from the Tenth and Market Alternative site. Ground water samples collected from the site indicated detectable concentrations of BTEX during November 1990 and March 1992 sampling events. A hydrocarbon compound similar to diesel fuel, but not confirmed as diesel fuel, was detected in one of the monitoring wells.

The source of the fuel-related contamination identified in soil and ground water at the adjacent, hydrogeologically cross-gradient site is not known. A buried metal object was identified in a previous investigation performed in 1992 to search for evidence of unknown USTs at the site (see Figure 3.13-5). The metal object, approximately four feet by five feet in dimension, is located in the offsite portion of the former service station.

Site 5 was on file with the RWQCB and the SFDPH. The RWQCB file indicated that an unauthorized release from an underground tank was reported on April 1987 during a tank test. The release was from a 3,000-gallon capacity gasoline tank that was approximately 20 years old. Information concerning additional work performed on Site 5 was not available in the files reviewed. In October 1989, 4 inches of separate-phase hydrocarbons (gasoline) was observed on the ground water table in a monitoring well installed on the site at 1390 Market Street to monitor leakage from a 10,000-gallon diesel fuel tank. No diesel fuel was detected in the ground water. TPH identified as gasoline was detected at concentrations of 590,000 mg/L, benzene at 32,000 mg/L, toluene at 22,000 mg/L, xylenes at 45,000 mg/L, ethylene dibromide (EDB) at 0.022 mg/L, and total lead at 7.4 mg/L. Diesel was detected in soil at 16 feet below ground surface at 490 mg/kg (Table 3.13-2).

The SFDPH file contained additional information on this site, in addition to the data contained in the RWQCB files. Diesel fuel, gasoline, volatile organic compounds (VOCs), and lead were detected in soil and ground water on Site 5 in November 1986 (Table 3.13-2). The SFDPH granted permission in January 1990 to remove three gasoline tanks from the site. Further information concerning the extent of contamination was not available in the files examined.

Site 6 was on file with the SFDPH. This file indicated that an unauthorized release occurred from a gasoline UST in September 1987. No information regarding contamination of the site was available for review. One UST was replaced at Site 6 in November 1990, and tested tight 1 year later.

Site 8 files were not available for review (N/A)[2].

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[2] Site identified as potential hazardous substance containing site by the Cal-Sites list. This list identifies both known and potential hazardous substance sites. However, files pertaining to this site were not available for review. Low priority site files were purged by DTSC.

Site 15 was on file with the SFDPH. Approval to remove a 550-gallon waste oil tank was given by the SFDPH in March 1989. No releases from underground tanks were identified in this file.

Site 20 was on file with the SFDPH. Two diesel fuel tanks, 2,000 and 1,700 gallons, were installed in 1972. Monitoring of the tanks began in July 1988. No releases from underground tanks were identified in this file.

A review of regulatory records also indicated that numerous hydrogeologically downgradient sites, which may contain potentially hazardous materials, are located within one city block of the Tenth and Market Alternative site (see Figure 3.13-6 and Table 3.13-2). Only one site is located in close proximity to the subject site (Site 12).

Site 12 was on file with the SFDPH. Two soil borings drilled in February 1991 revealed the presence of gasoline and VOCs in soil, and gasoline, diesel fuel, and VOCs in ground water. No additional information was available for this site.

Known releases of hazardous materials within one block of the Tenth and Market Alternative site are limited to those involving petroleum hydrocarbons; it is not known whether ground water under the site has been affected by off-site, up-gradient sources of petroleum hydrocarbons and volatile organic compounds.

B. Seventh and Mission Alternative

Unless otherwise indicated, the following information is based on a report prepared by Baseline Environmental Consulting, titled *Phase I Site Assessment Seventh Street/Mission Street Parcels, San Francisco, California*, dated May 1995.[3] Please refer to this report in Appendix C for more specific information regarding past and present site uses and methods of data generation.

Onsite Conditions. The Seventh and Mission Alternative site is relatively level, with a very slight slope toward the southeast. The western part of the site (Parcel 1) was dominated by three vacant buildings at the time of the site inspection (April 1, 1995). At the corner of Seventh and Stevenson Streets was a vacant five-story concrete building, the former Hotel Odeon (see Figure 3.13-7). The windows and entrances to this building were boarded up. Adjacent to the vacant hotel was a vacant four-story brick building, the former site of the Greyhound bus depot and offices. Behind the depot was a long one-story concrete and steel bus loading shelter (see Figure 3.13-7). Entrances and windows at both the bus depot building and loading shelter were boarded up.

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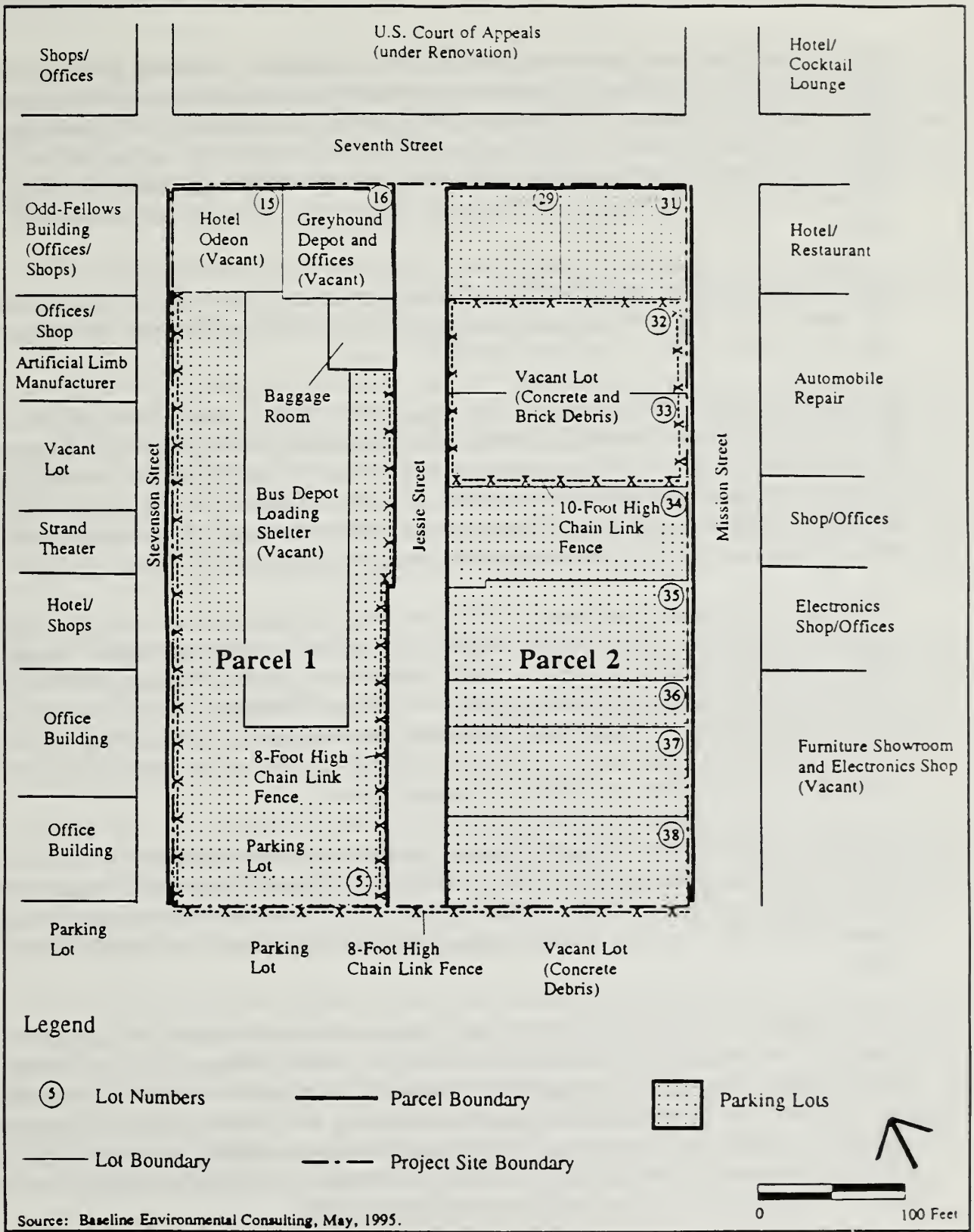
[3] For the purposes of the Phase I site inspection and report, the Seventh and Mission Alternative site is divided into two parcels designated Parcel 1 and Parcel 2. Parcel 1 is north of Jessie Street. Parcel 2 is south of Jessie Street.



Source: Baseline Environmental Consulting, May, 1995.

SITE PLAN
SEVENTH STREET/MISSION STREET PARCELS
SAN FRANCISCO, CALIFORNIA

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-7

The area around the bus loading shelter is used as a parking lot. This area is secured with an 8-foot high chain link fence, with a gate on Stevenson Street near the southwestern corner of the site to allow vehicle access. The surface of this parking lot is concrete and in good condition, with a few cracks. Numerous oil and grease stains were present on the surface of the concrete surface. No vent or fill pipes or other evidence of underground storage tanks was found in this portion of the site, suggesting that Greyhound buses were fueled and serviced at a different location.

Jessie Street, a 30-foot wide asphalt city roadway, is the boundary between Parcels 1 and 2. The street was in poor condition, with numerous large cracks and potholes. Oil, grease, and paint stains were visible on the asphalt surface.

The eastern portion of the site (Parcel 2) consists of two parking lots and one vacant lot (see Figure 3.13-7). A small parking lot, measuring approximately 165 by 80 feet, was located at the corner of Seventh and Mission Streets. The surface of the parking lot was asphalt and concrete. The parking surface was in poor condition, with numerous cracks and potholes. Oil and grease stains were visible on the concrete and asphalt surfaces. Drainage at this lot was poor; several large puddles of standing water from a recent rain were visible.

A vacant lot, measuring approximately 130 by 165 feet, was located south of the small parking lot (see Figure 3.13-7). The lot was secured with a 10-foot chain link fence. The lot was covered with tall grasses and weeds. Visible exposed soil appeared light brown and sandy, similar to the surface soils described in a geotechnical report conducted near the site (Geomatrix, 1992). Large pieces of concrete and brick debris were visible on the vacant lot, presumably from a former building on the lot. Assorted paper and plastic litter and aluminum cans were visible in the portion of the lot adjacent to Mission Street.

South of the vacant lot was a second parking lot, measuring approximately 285 by 165 feet, with vehicle access from Mission Street. The surface of the lot was asphalt, and in poor condition, with numerous cracks and potholes. Oil and grease stains were visible on the asphalt surface. Drainage at this lot was poor; several large puddles of standing water from a recent rain were visible.

Offsite Conditions. North of the Seventh and Mission Alternative site, across Seventh Street, is the U.S. Court of Appeals building. The building is closed for renovation. Scaffolding was present in front of the building along Seventh Street and construction work was underway at the rear of the building. West of the site, along Market Street, were several commercial properties, including the Odd-Fellows Building (consisting of offices and shops), the former site of an artificial limb manufacturer (vacant), a vacant lot (formerly the Embassy Theatre), a movie theatre, a hotel, and two office buildings (see Figure 3.13-7).

Immediately south of the site, adjacent to Parcel 1, was a parking lot for the Trinity Plaza Apartments, located at Eighth and Market Streets. The parking lot had an asphalt surface, and

was in good condition. The Trinity Plaza Apartments buildings are a complex of concrete and steel buildings, ranging from four to seven stories in height, that house apartments and restaurants. A vacant lot, measuring approximately 165 by 60 feet, was present immediately south of Parcel 2 (see Figure 3.13-7). The lot was secured with an 8-foot high chain link fence. Concrete debris and plastic and paper litter were visible on the lot, which was covered with weeds and tall grasses.

East of the site, across Market Street, were several commercial buildings, including a hotel and restaurant, offices, an automobile repair shop, a vacant furniture warehouse and showroom, an electronics shop, an art gallery, and a photography shop.

Previous Onsite Conditions. Historical uses of the Seventh and Mission Alternative site and surrounding properties were determined by review of Sanborn Fire Insurance maps and historical aerial photographs. Sanborn maps for the years 1886, 1899, 1913, 1949, 1950, 1974, 1990, and 1994 were reviewed (Sanborn Fire Insurance Company, 1995). Historical aerial photographs for the years 1938, 1948,1958, 1969, 1979, 1986, and 1993 were reviewed to confirm Sanborn map information and to provide land use information for periods when Sanborn maps were not available. A summary of historical land uses is provided in Table 3-13-3; details are provided below.

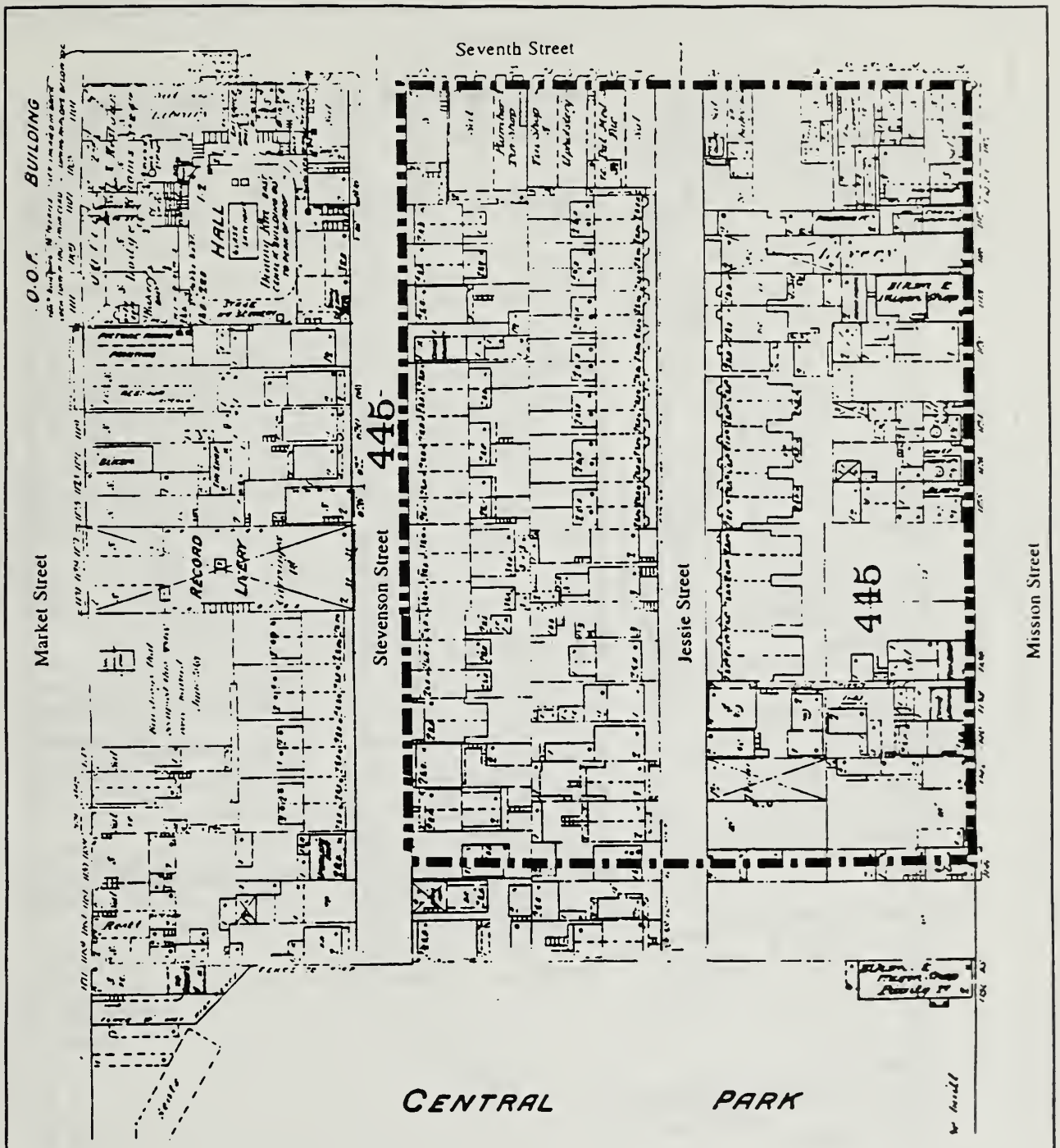
In the 1886 Sanborn Map (see Figure 3.13-8), the site was large residential, with shops and saloons along Seventh Street and Mission Street. Areas of potential concern included two tin shops on Seventh Street and two blacksmith shops on Mission Street. Adjacent land uses included residences, offices, a banquet hall, blacksmith, mason, and upholstery shops, liveries, and house movers.

The 1899 Sanborn Map (see Figure 3.13-9) showed that the blacksmith shops on Mission Street had been removed and replaced by building materials storage. Two laundries, two restaurants, and a plumbers shop were present on the site. A furniture shop and paint shop were added to the adjacent area, and the U.S. Court of Appeals/Post Office building (see Figure 3.13-7) was under construction, immediately north of the site.

In the 1913 Sanborn Map (Figure 3.13-10), land use on the site and vicinity changed from predominantly residential to predominantly commercial/industrial. Three hotels, two printing shops, a tent and awning factory, an artificial limb factory, a glass factory and automobile storage were present on the site. Construction of the Court of Appeals/Post Office building was completed north of the site, and a theatre had been constructed west of the site. The 1938 aerial photograph showed that land uses on the site vicinity remained commercial/industrial. A service station had been built at the corner of Eighth and Mission Streets, just southwest of the site.

Table 3.13-3. Historical Land Uses at and Adjacent to the Seventh and Mission Alternative Parcels

Source	Project Site		Adjacent to Project Site	
	Land Uses	Potential Contaminants	Land Uses	Potential Contaminants
1886 Sanborn Map	Plumber, tin shop, upholstery shop, patent medicine shop, carpenter shop, livery, wagon shop, blacksmith, house mover, saloons, residences	Metals	Offices, livery, tin shop, blacksmith, mason shop, upholstery shop, banquet hall, house mover, residences.	Metals
1899 Sanborn Map	Building material storage, restaurants, plumber, laundries, liquor shop, saloons, residences	Metals	Banquet hall, lodge building, offices, furniture shop, printing shop, paint shop, blacksmith, wagon shop, residences, post office/courthouse (under construction)	Metals, volatile organics, semi-volatile organics
1913 Sanborn Map	Moving picture company, restaurants, shops, saloons, automobile storage, print shops, hotels, tent and awning factory, artificial limb factory, glass works	Metals	Shops, offices, lodge halls, theatre, post office/courthouse (under construction)	None
1938 Aerial Photograph	No visible changes on the site	Metals	Shops, offices, theaters, residences, manufacturing facilities, gasoline station, post office/courthouse	Metals, petroleum hydrocarbons
1949, 1950 Sanborn Maps, 1948, 1958 Aerial Photographs	Bus depot, parking, restaurant, offices, hotels, glass works, plumbers, lamp factory, tent and awning factory, shops	Metals, volatile organics, petroleum hydrocarbons	Cabinet shop, warehouse, shops, movie theatre, theatre, artificial limb manufacturing, electrical works, lodge hall, restaurants, post office, public market, gas and oils (Eighth & Mission-SW corner)	Metals, volatile organics, petroleum hydrocarbons
1974 Sanborn Map, 1969, 1979 Aerial Photographs	Bus depot, restaurants, hotels, shops, offices, parking lots, package depot	Metals, petroleum hydrocarbons	Electrical manufacturing, motel, movie theatre, theatre, hotel, offices, restaurants, radio broadcast studio, artificial limb manufacturing, electrical manufacturing, post office, parking lots (gas station removed)	Metals, petroleum hydrocarbons
1990 Sanborn Map, 1986 Aerial Photograph	Bus depot, restaurant, hotel, parking lots	Metals, petroleum hydrocarbons	Shops, lodge hall, restaurants, radio/television broadcast studio, offices, artificial limb manufacturing, theatre (vacant), movie theatre, hotel, parking lot, post office, Trinity Plaza	Metals, petroleum hydrocarbons
1994 Sanborn Map, 1993 Aerial Photograph	Bus depot (vacant), restaurant, hotel, parking lots	Metals, petroleum hydrocarbons	Shops, lodge hall, restaurants, radio/television broadcast studio, offices, artificial limb manufacturing, theatre (vacant), movie theatre, hotel, parking lot, post office, Trinity Plaza	Metals, petroleum hydrocarbons



Legend

Approximate Project Site Boundary

Approximate

0 100 Feet

Source: Baseline Environmental Consulting, May, 1995.

SANBORN MAP - 1886
SEVENTH STREET/MISSION STREET PARCELS
SAN FRANCISCO, CALIFORNIA

SAN FRANCISCO FEDERAL BUILDING
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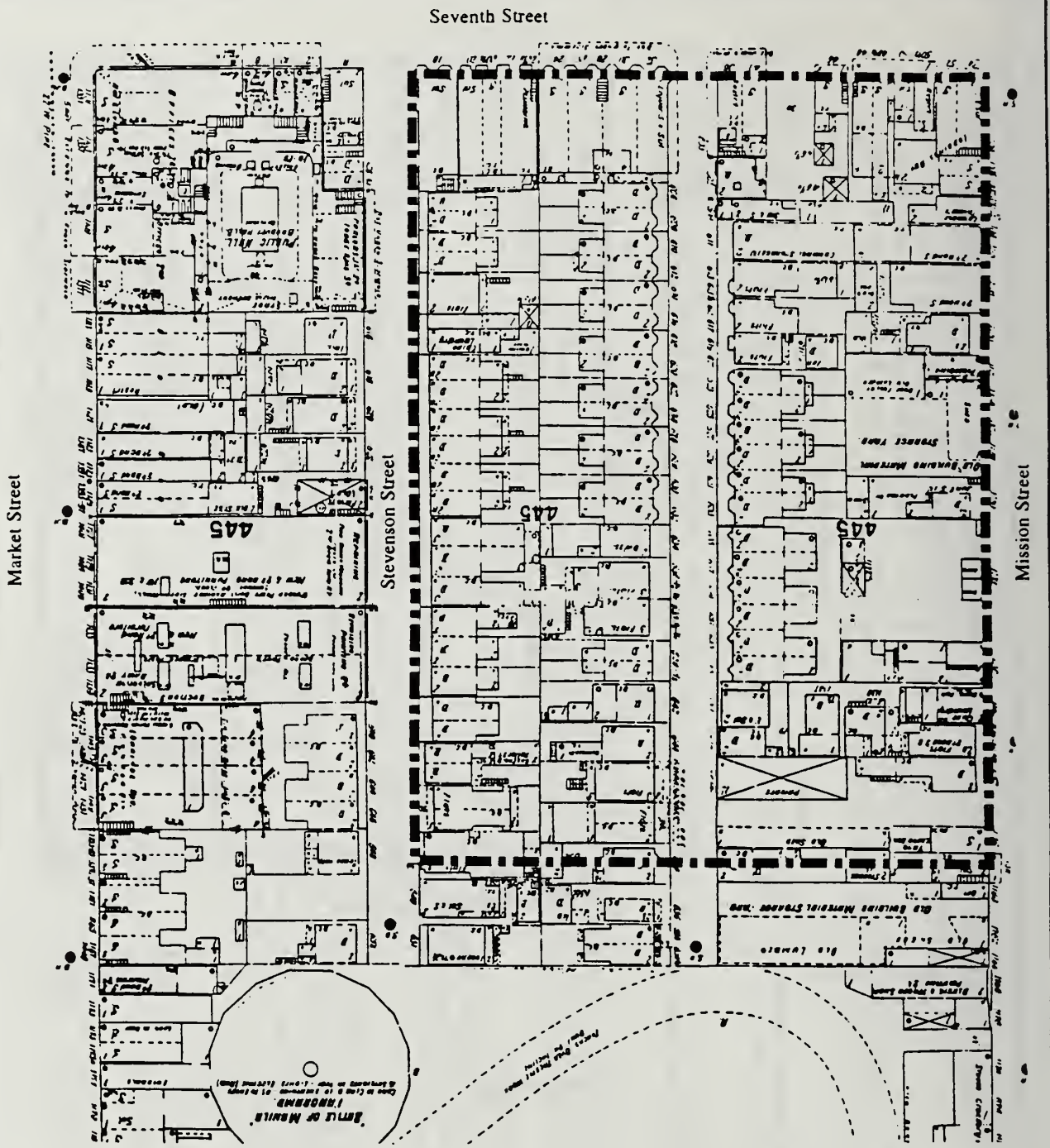
Figure 3.13-8



Legend

Approximate Project Site Boundary

Approximate

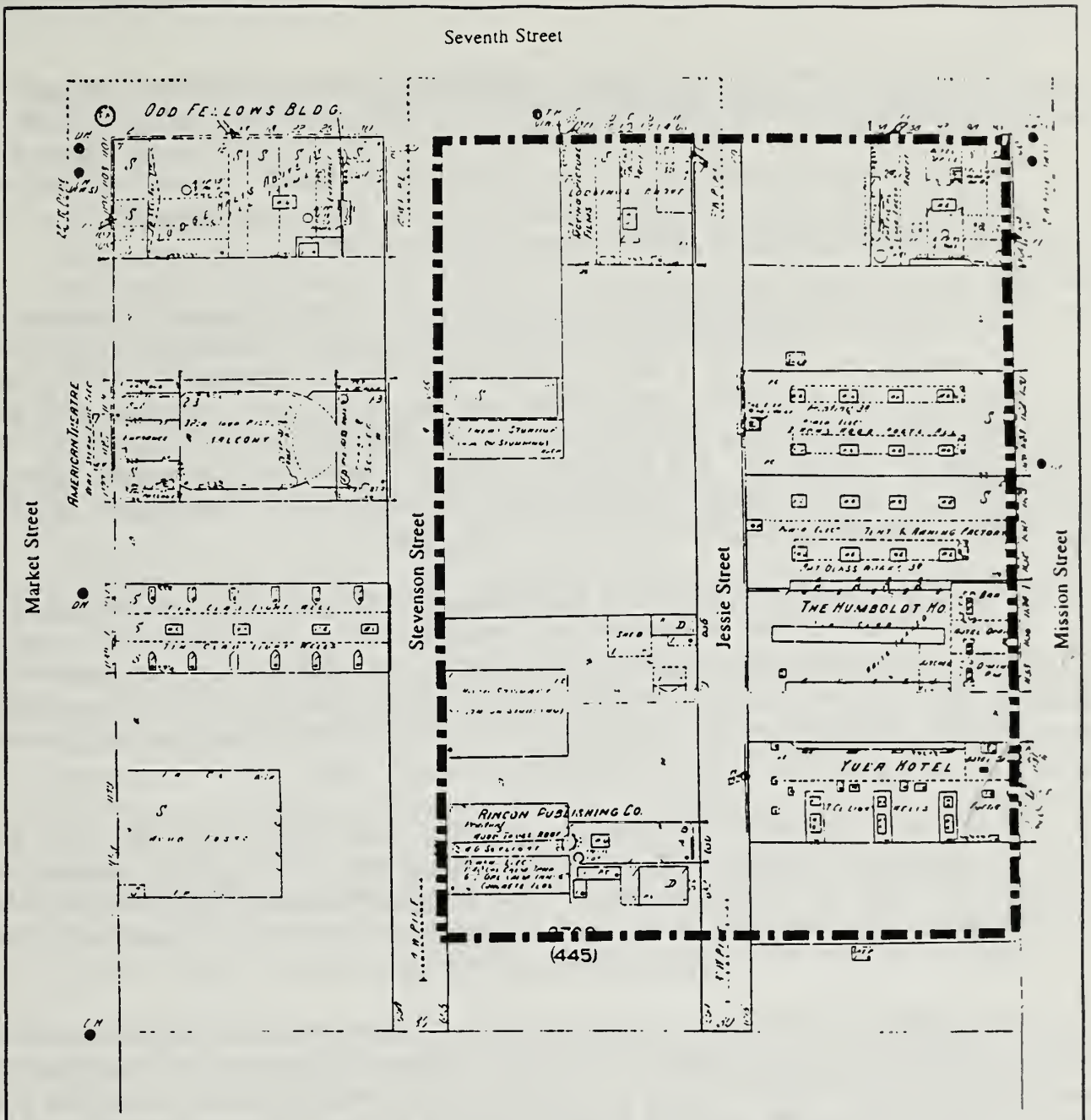
0 100 Feet

Source: Baseline Environmental Consulting, May, 1995.

SANBORN MAP - 1899
SEVENTH STREET/MISSION STREET PARCELS
SAN FRANCISCO, CALIFORNIA

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-9



Legend

Approximate Project Site Boundary

Approximate

0 100 Feet

Source: Baseline Environmental Consulting, May, 1995.

SANBORN MAP - 1913
SEVENTH STREET/MISSION STREET PARCELS
SAN FRANCISCO, CALIFORNIA

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 3.13-10

The 1948 aerial photograph (see Figure 6 in Appendix C) shows the Greyhound bus depot had been constructed on the site at Seventh and Stevenson Streets. The area south of the depot was in use for bus parking. A parking lot was visible at Seventh and Jessie Streets. South of the site, public market buildings and parking lots had been constructed. No other changes were visible in the site vicinity. The 1949 Sanborn Map (see Figure 7 in Appendix C) and 1959 aerial photograph showed no further changes in the site or vicinity.

The 1969 aerial photograph and 1974 Sanborn Map (see Figure 8 in Appendix C) showed that five buildings in the southwest corner of the site had been removed and replaced by parking lots. The remaining two buildings on Mission Street were a Greyhound package depot and a hotel. South of the site, the public market buildings had been removed and a motel and parking lot built. Several shops along Market Street, near the southwest corner of the site, had been replaced by a parking lot. The 1986 aerial photograph showed that the hotel the corner of Seventh and Mission Streets had been removed and replaced with a parking lot. No other changes were noted in the site vicinity during these years.

The 1990 Sanborn Map (see Figure 9 in Appendix C) showed that the Greyhound package depot on Mission Street had been removed and that a baggage room had been built adjacent to the bus depot. Two office buildings had been built on Market Street near the southwest corner of the site. The motel south of the site had been converted into an apartment building. An electrical equipment manufacturing plant, located south of the site on Mission Street, had been removed. No other changes were noted in the site vicinity.

The 1993 aerial photograph (see Figure 10 in Appendix C) and 1994 Sanborn Map (see Figure 11 in Appendix C) showed the site in its present configuration. The Greyhound bus depot was no longer in use. The Embassy Theatre, west of the site, was vacant. Scaffolding, indicating renovation work, was visible at the Court of Appeals building north of the site. No other changes in land use were apparent at the site or vicinity.

The topography of the site is level, with an elevation of approximately 35 feet above mean sea level (USGS, 1973). A geotechnical investigation conducted 400 feet north of the site indicated that soils near the site consisted of ten to twelve feet of fill materials (an eight- to ten-foot layer of yellowish-brown sand overlying a two-to four-foot layer of brick and rubble) overlying approximately fifteen feet of dark olive brown sand. Site subsurface conditions may be similar. Depth to ground water in the site vicinity is approximately 21 feet below ground surface; ground water flows south-southeast toward China Basin. As the fill is uncharacterized, it is possible that this fill may contain contaminants. Typical contaminants found in fill in the site area are lead and petroleum products.

Current and historical land uses present the potential for subsurface contamination at the site. Lots 15 and 16 on Parcel 1 and Lots 32 and 33 on Parcel 2 were historically used as blacksmith and tin shops. Lot 5 on Parcel 1 and Lot 33 on Parcel 2 were historically used as print shops. Lots 32-38 on Parcel 2 were historically used as factories, including a lamp factory, a paint

shop, a tent and awning factory, and an electrical equipment factory. The presence of parking lots on Lot 5 of Parcel 1 and Lots 29, 31, and 34-38 on Parcel 2 could have affected shallow soils at the site.

A ground water investigation in the site vicinity indicated that ground water near the site (crossgradient) contained concentrations of petroleum hydrocarbons (as diesel and oil). Three volatile organic compounds (PCE, TCE, and cis-1,2-DCE) were detected at levels above the Maximum Contaminant Level. As the source of this contamination is unknown, it is unknown whether ground water at the site may also contain these contaminants.

Based on a review of available information, chlorinated organic compounds are present in the ground water approximately 500 feet in a hydrogeologically downgradient direction, from the site. These compounds are present in concentrations in excess of State of California drinking water standards. The source of the contamination has not been determined. Soil and ground water conditions, with respect to potential contamination, is unknown beneath the subject site. A records search by California EPA, Department of Toxic Substances Control did not reveal records pertaining to the site (Charlotte Williams, personal communication, April 26, 1994).

Twenty-five sites associated with hazardous materials were identified within one-eighth mile of the Seventh and Mission Alternative site (see Table 3.13-4, Figure 3.13-11). A file review of available information for these sites was conducted on May 27, 1995 at the San Francisco Department of Public Health (SFDPW), Hazardous Materials Division offices, by Baseline Environmental Consulting. Seventeen sites within one-eighth mile of the site were identified on the State Department of Toxic Substances Control (DTSC) Cal-Sites list (see Table 3 in Appendix C). These sites were identified by DTSC during a drive-by reconnaissance as having the potential for hazardous material releases. Three of those sites were within the boundaries of the Seventh and Mission Alternative site. DTSC later delisted five of those sites and determined that no further action was required at six others.

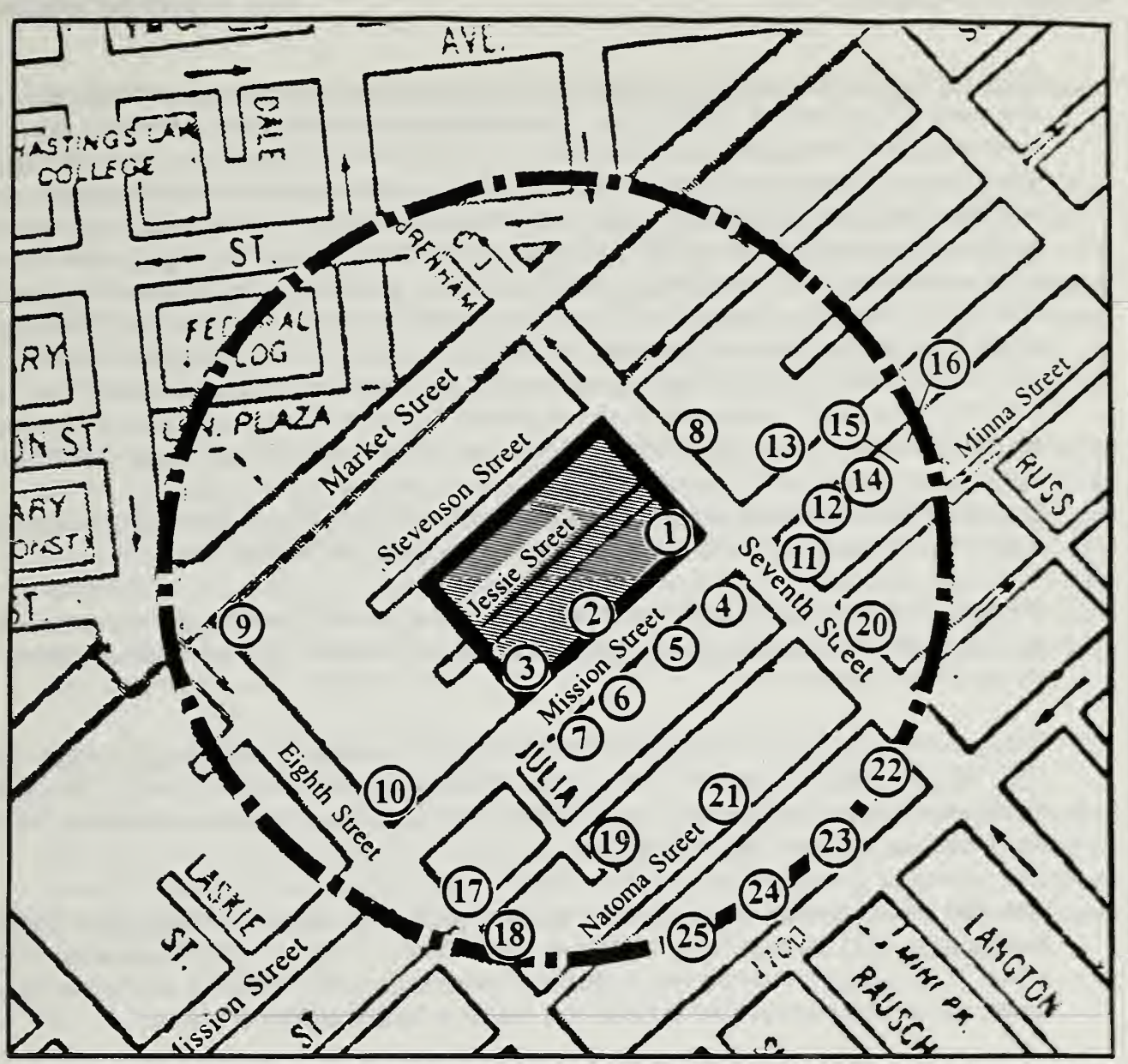
After further review, DTSC determined that a preliminary environmental assessment would be required at the remaining seven sites (including two sites within the Seventh and Mission Alternative site boundaries), but left them as a low priority. Two of these sites are located within the site, four are located approximately 400 feet north of the site, and one is located approximately 500 feet southeast of the site.

Sites 1 and 3 - 1110-1112 and 1150-1152 Mission Street, which are located within the Seventh and Mission Alternative site, were historically used as a lamp factory and electronic equipment factory, respectively. The lamp factory building (1110-1112 Mission) was converted to a Greyhound Package Express building sometime between 1950 and 1974; it was torn down sometime between 1979 and 1986. The electronic equipment factory was torn down between 1959 and 1969; this site is currently a parking lot. No information about these sites was available from SFDPH files.

Table 3.13-4. Sites Identified in Regulatory Agency Records Within A One-Eighth-Mile Radius of the Seventh and Mission Alternative Site

Site	Site Name	Site Address	Regulatory Records
1	W.B. Baker Company	1110-1112 Mission Street (onsite)	Cal-Sites
2	Gerald Moss	1124 Mission Street (onsite)	Cal-Sites
3	U.S. Hoffman Machinery Corp./Appleton Electric Co.	1150-1152 Mission (onsite)	Cal-Sites
4	Babe Zanca Service, Inc.	1127 Mission Street	LUST
5	Riley Precision Tool Co.	1135-1137 Mission Street	Cal-Sites
6	Bower Manufacturing Co.	1139 Mission Street	Cal-Sites
7	California Building Maintenance Co.	1145 Mission Street	LUST, Cortese
8	U.S. Court of Appeals	99 Seventh Street	LUST
9	Trinity Properties	1169 Market Street	RCRA-Large Generator
10	Mission Substation	66 Eighth Street	RCRA-Large Generator
11	Emile Battezato	109 Seventh Street	LUST
12	T.J. Topper Co.	1089 Mission Street	Cal-Sites
13	General Services Administration/Irvine Jachens	1064-1068 Mission Street	Cal-Sites, LUST, Cortese
14	Advertiser's Service	1065 Mission Street	Cal-Sites
15	Strathmore Printing Co.	1063 Mission Street	Cal-Sites
16	Chevron/The Process Company/Bubble Car Wash	1045 Mission Street	Cal-Sites, LUST, Cortese
17	Lewis Sheet Metal Works	140 Eighth Street	Cal-Sites
18	Terrapin Diagnostics	165 Eighth Street #306	RCRA-Large Generator
19	Frank Schabert	687 Minna Street	Cal-Sites
20	West Coast Electrical Works, Ltd	166 Seventh Street	Cal-Sites
21	Becline Tape Printing	630 Natoma Street	Cal-Sites
22	Shell	1100 Howard Street	LUST, Cortese
23	Lobranco Brothers	1108 Howard Street	Cal-Sites
24	American Printing Lithography	1144-48 Howard Street	Cal-Sites
25	Metallurgical Lab	1142 Howard Street	Cal-Sites

Notes: LUST = Leaking Underground Storage Tank list.



Legend

Project Site

One-Eighth Mile Radius

(22) Site Associated with Potential Hazardous Materials Release

See Table 3.13-4 for Description of Sites

0 300 Feet

SOURCE: Baseline Environmental Consulting, 1995

SITES ASSOCIATED WITH HAZARDOUS MATERIALS RELEASES WITHIN 1/8 MILE OF SEVENTH AND MISSION ALTERNATIVE

Figure 3.13-11

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Sites 13, 14, and 15 - 1064-1069, 1065, and 1063 Mission Street, located approximately 400 feet north of the Seventh and Mission Alternative site, are crossgradient from the site. An environmental investigation was performed at the 1064-1068 Mission Street site (Geomatrix, 1992), which is owned by the GSA. Soil and ground water samples were collected from three borings at the 1064-1068 Mission site in June 1992. Soil samples from these borings contained total petroleum hydrocarbons (TPH) as oil at concentrations up to 3,200 mg/kg. The ground water samples contained up to 900 μ/L of TPH as oil. The ground water samples also contained three volatile organic compounds, PCE (42 μg/L), TCE (7 μg/L), and cis-1,2-DCE (42 μg/L) at levels above the Maximum Contaminant Levels (5 μg/L, 5 μg/L, and 6 μg/L, respectively). The environmental investigation did not identify the source of this contamination, so it is unknown if the source is upgradient or crossgradient from the Seventh and Mission Alternative site. No information was available from SFDPH on the sites at 1063 Mission and 1065 Mission.

Site 17 - 140 Eighth Street, the former location of Lewis Sheet Metal Works, is downgradient from the site. No information about this site was available in SFDPH files.

Six sites within one-eighth mile of the site were listed on the LUST and/or Cortese lists, due to leaking underground petroleum storage tanks. All of the sites are either downgradient or crossgradient from the site.

Three underground diesel storage tanks were removed from Site 4 - Babe Zanca Service, Inc., 1127 Mission Street in January 1991. Total petroleum hydrocarbons as diesel (TPH-g) was identified in excavation soils at up to 1,800 mg/kg. The tank area was overexcavated, and the site is awaiting closure from the RWQCB.

One 500-gallon gasoline storage tank was removed from Site 7 - California Building Maintenance, 1145 Mission Street in January 1990. Up to 47 mg/kg of TPH as gasoline (TPH-g) and 37.7 mg/kg of total lead was identified in excavation soils. RWQCB determined that no further action was required and the case was closed in March 1995.

Two 4,000-gallon diesel/fuel oil tanks were removed from Site 8 - U.S. Court of Appeals, 99 Seventh Street in 1993 as part of renovation work on the building. Soil samples from the excavation identified up to 60 mg/kg of oil and grease. No further action was required by RWQCB.

In April 1994, a 1,500-gallon underground fuel oil tank was removed from Site 11 - Emile Battezato, 109 Seventh Street. Concentrations of TPH-d at up to 952 mg/kg were identified in soil samples from the excavation. All soil from the concrete tank vault was removed and treated, and the case was closed by SFDPH in June 1994.

Three 10,000-gallon underground gasoline tanks were removed from Site 16 - Chevron, 1045 Mission Street in July 1988 as part of station demolition procedures. TPH-g at concentrations of up to 5.1 mg/kg and traces of benzene, toluene, ethylbenzene, and xylenes (BTEX) were

identified in soils in the concentration. No further investigation or remediation has been taken; the case is awaiting closure from SFDPH.

Four gasoline tanks (two 5,000- and two 8,000-gallon capacity) and one waste oil tank (550-gallon capacity) were removed from Site 22 - Shell, 1100 Howard Street in 1988 as part of station demolition procedures. TPH-g was identified in excavation soils at concentrations up to 3,700 mg/kg. Soils in the tank area were overexcavated, and five ground water monitoring wells were installed. The most recent ground water monitoring report (March 1995) showed that TPH-g was present in ground water at concentrations up to 560 μg/L, and benzene at up to 33 μg/L. Ground water monitoring is continuing on a quarterly basis.

Three sites within one-eighth mile of the Seventh and Mission Alternative site were listed on the RCRA Hazardous Waste Generators list. Trinity Properties (1169 Market Street, Site 9), the Mission Substation (66 Eighth Street, Site 10), and Terrapin Diagnostics (165 Eighth Street, Site 18) were listed on the RCRA Larger Generators List of sites, which generate more than 10,000 kg/month of nonacutely hazardous waste of 1 kg/month of acutely hazardous waste. All three sites are crossgradient or downgradient from the site. No records of violations or corrective actions were identified in the environmental database review. No further information about these sites were available in SFDPH files.

C. Purchase Alternative

The Purchase Alternative would result in the purchase of an office building at an undetermined site within the CBD. Extensive renovation in the existing building may be required to accommodate federal agency occupants. Renovation may expose several hazardous substances including asbestos, lead-based paints, lead in plumbing infrastructure and/or polychlorinated biphenyls (PCBs).

D. Lease Alternative

The Lease Alternative would result in the lease of office space at an undetermined site or sites within the CBD. Extensive renovation in existing buildings may be required to accommodate the federal agency occupants. Renovation may expose several hazardous substances including asbestos, lead-based paints, lead in plumbing infrastructure and/or PCBs. For a full discussion of this and surrounding sites, see Appendix C.

E. No Action Alternative

Federal agencies currently occupy a number of federally leased and owned facilities within the CBD. Operation of the buildings is subject to applicable regulations regarding use and abatement of hazardous substances.

3.14 WIND

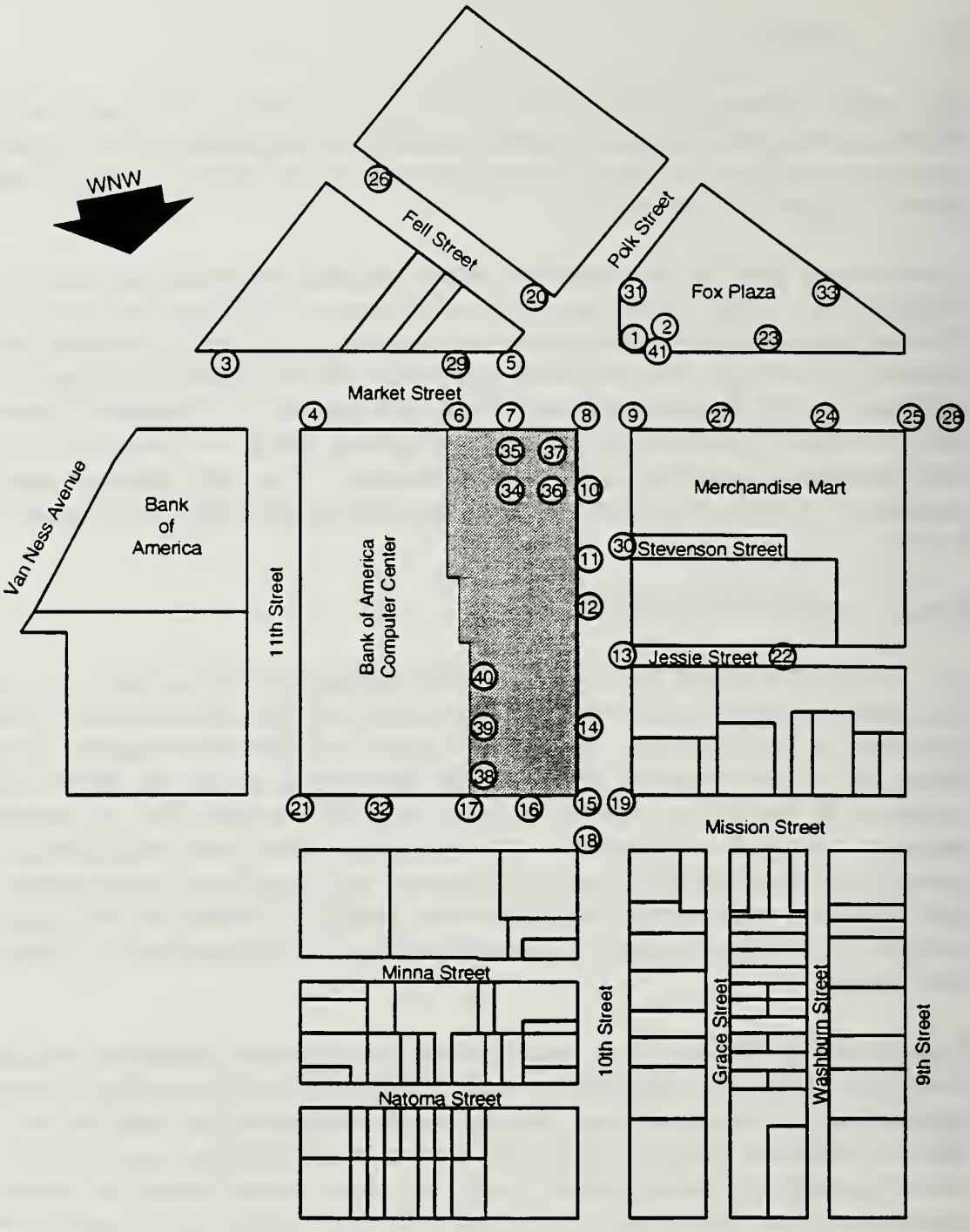
This section addresses existing wind conditions in the vicinity of the alternative sites. The information was taken from the "Pedestrian-Level Wind-Tunnel Study of the Proposed Federal Building Site at Tenth and Market Streets" prepared by Dr. Bruce R. White (January, 1995) which is included in Appendix H.

A wind-tunnel study for the proposed Federal Building was conducted in the Atmospheric Boundary Layer Wind Tunnel located at the University of California at Davis (UC Davis). The study was conducted independent of the university. A 1" = 50' model of San Francisco was used in the testing. Test procedures referenced in Section 148 (Wind Ordinance) of the City and County of San Francisco Municipal Code were adhered to. Wind-speed measurements at 30 to 45 surface locations using a thermal anemometry system were made for four prevailing wind directions as specified in the Wind Ordinance. The wind directions tested included northwesterly, west-northwesterly, westerly and west-southwesterly (see Figures 3.14-1 and 3.14-2).

3.14.1 Wind Characteristics

U.S. Weather Bureau and Bay Area Air Quality Management District data show that westerly (i.e., from the west) to northwesterly winds are the most frequent and strongest winds during all seasons in San Francisco. Of the 16 primary wind directions measured at the Weather Bureau station (at a height of 132 feet), four directions comprise the greatest frequency of occurrence as well as the majority of strong wind occurrences; these are northwest, west-northwest, west, and west-southwest. Calm conditions occur about two percent of the time. Average wind speeds are the highest during summer and lowest during winter months. Strongest peak winds, however, occur in the winter when speeds of 47 miles per hour (mph) have been recorded. The highest average wind speeds are in the mid-afternoon and the lowest are in the early morning.

Wind conditions contribute to the overall comfort experienced by pedestrians on sidewalks and public areas. Wind flows are redirected around large buildings often resulting in increased wind speed and turbulence at street level. Winds up to four miles per hour (mph) have no noticeable effect on pedestrian comfort. With winds from four to eight mph, wind is felt on the face. Winds from eight to thirteen mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust and dry soil, and will disarrange hair. For winds from 19 to 26 mph, the force of the wind will be felt on the body. With 26 to 34 mph winds, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 mph increase difficulty with balance and gusts can blow people over (Pedwarden, 1973).



LEGEND

(8) Point of Wind Measurement
Numbers Correspond to Table 4.14-1

Prevailing Wind Direction (WNW)

0' 200'

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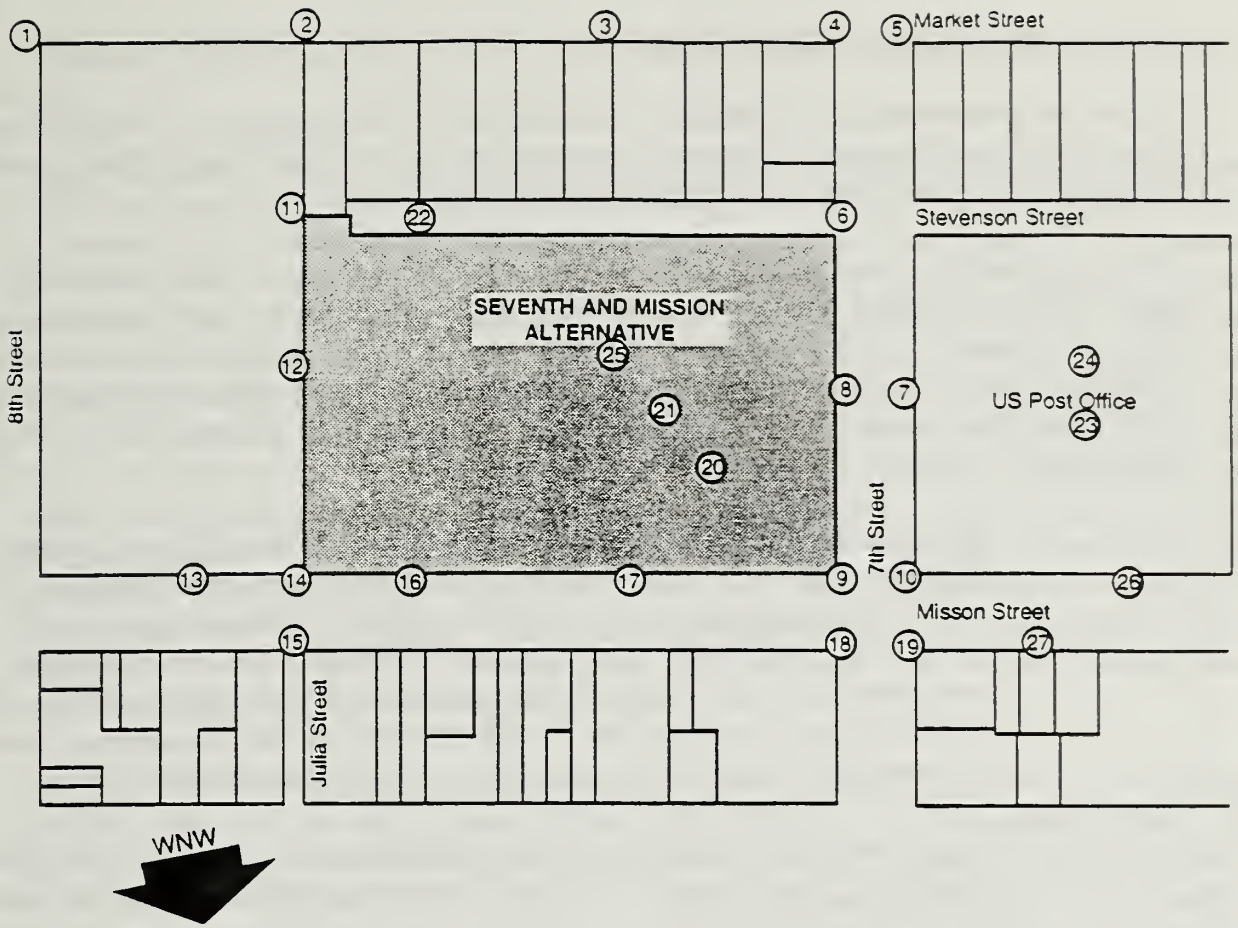
SURFACE POINT LOCATIONS FOR MEASURMENT IN THE WIND TUNNEL TEST - 10th AND MARKET ALTERNATIVE
Figure 3.14-1



LEGEND

(8) Point of Wind Measurement Numbers Correspond to Tables in Sections 3.14 and 4.14

Prevailing Wind Direction (WNW)

0' 250'

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SURFACE POINT LOCATIONS FOR MEASUREMENT IN THE WIND TUNNEL TEST SEVENTH AND MISSION ALTERNATIVE

Figure 3.14-2

3.14.2 San Francisco Wind Criteria

The federal government is not required to comply with local regulations. This includes San Francisco's Downtown wind ordinance. Nevertheless, the ordinance provided the criteria for analyzing the potential impacts of the proposed building.

The City Planning Code Section 148, Reduction of Ground-Level Wind Currents in C-3 (Downtown Commercial) districts, requires buildings to be shaped so as not to cause ground-level wind currents to exceed certain speeds between 7 a.m. and 6 p.m. The wind ordinance is defined in terms of equivalent wind speed. This term denotes an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence (White, 1992). Winds are analyzed for a "comfort" criterion, and a "hazard" criterion:

- Comfort criterion. Pedestrian level winds must not exceed 11 mph in substantial pedestrian use areas, and 7 mph in public seating areas more than 10% of the time [or 876 hours per year] on a year round basis between the hours of 7 a.m. and 6 p.m. All of the respective test locations at the two alternative sites correspond to sidewalk and public plazas, which are representative outdoor pedestrian areas; therefore, the 11-mph comfort criterion is appropriate to assess the state of the "wind environment" for the three configurations tested.

- Hazard criterion. Buildings must not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph for a single full hour of the year, or 0.011416% of the time.

3.14.3 Site-Specific Setting

A. Tenth and Market Alternative

The Tenth and Market alternative site vicinity is, speaking qualitatively, one of the windiest areas in San Francisco. Both pedestrians and kiosks have been blown over as a result of wind conditions. Of over 50 wind tunnel studies conducted by Dr. White in San Francisco, this area had the most severe conditions.

Comfort Criterion. The existing setting is considered very windy with 30 of the total 33 test locations exceeding the 11-mph pedestrian-comfort criterion (see Figure 3.14-1 and Table I, page 31 in Appendix H). Wind speeds (i.e., equivalent speeds exceeded 876 hours of the year) range from 12 to 24 mph along Market Street, with the south side (Market Street side) of the Fox Plaza tower plaza and the sidewalk corner area of the project site at Market and Tenth Streets both at an unusually high speed of 24 mph at locations #1 and #8. Along Tenth Street between Mission and Market Streets, wind speeds range from 13 to 24 mph while wind speeds on Mission Street range from 9 to 17 mph. Also, wind speed at the base of the AAA Building on

Fell Street between Van Ness Avenue and Polk Street is found to be an extraordinarily high 29 mph.

Hazard Criterion. Sixteen measured locations were found to exceed the hazard criterion under the current conditions (refer to Figure 3.14-1 and Table 4.14-1). A cumulative total of approximately 800 hours per year exceedances of the 36-mph hazard criterion were measured for these sixteen locations. The two greatest exceedances, in terms of duration or hours, occurred at locations #8 and #26 (location #8 is at the Tenth and Market corner of the site and location #26 is located on Fell Street at the base of the AAA Building). These locations have existing exceedances of 209 and 198 hours per year exceedance and, represent more than half of all the cumulative hours exceeded. Location #9, across Tenth Street from the Tenth and Market site, also has a 111 hour per year exceedance of the hazard criterion. Additionally, three other locations have substantial exceedances of the hazard criterion: location #30 with 64 hours per year; location #1 with 61 hours per year; and location #33 with 53 hours per year exceedance. These six locations comprise about 696 of the 800 hours of total cumulative exceedances, or 87% of all hazard exceedances. Location #30 is on Stevenson Street at Tenth Street. Location #1 is near the Fox Plaza Tower at Market Street; and location #33 is on Hayes Street just north of the Market Street intersection.

The existence of these major exceedances of the hazard criterion are due to and directly associated with the presence of three relatively tall buildings in the immediate vicinity. The three structures are the AAA building on Fell Street at Van Ness Avenue, the Fox Plaza tower and the Bank of America building. Both the Fox Plaza tower and the Bank of America building are located approximately across Market Street from each other and close to the Tenth and Market site. All three buildings are over 300 feet tall, whereas surrounding structures are substantially shorter. Additionally, the unique positioning of the three buildings relative to each other and the street grid (primarily the Fox Plaza tower and Bank of America building) creates a preferential channel or "Venturi" effect between these structures on Market Street and around the individual buildings for winds from both the southwest and northwest directions.

B. Seventh and Mission Alternative

Comfort Criterion. The existing setting is considered moderately windy, with 20 of the 27 test locations exceeding the 11-mph pedestrian comfort criterion (see Figure 3.14-2 and Table II, page 33, Appendix H). Wind speeds (i.e. equivalent speeds exceeded 876 hours of the year) range from 10 to 17 mph along Market Street north of the site location, with approximately 80% of measured wind speeds exceeding the 11-mph comfort criterion. Along Mission Street, near the site, 10 of the 11 measured wind speeds exceed the criterion. The windiest area, of the measured areas, occurs at the Seventh and Market Streets intersection, where winds range from 14 to 18 mph, and all winds exceed the 11 mph comfort criterion. The courtyard area of the Federal Courthouse building, directly east of the site across Seventh Street, has winds of 10 to 13 mph. Lastly, wind speeds along Seventh Street range from 10 to 18 mph, with the majority exceeding the 11 mph comfort criterion.

Hazard Criterion. This site is subject to strong winds. Refer to Figure 3.14-2 and Table 4.14-2. Three existing locations of the 27 tested were found to be in violation of the hazards (safety) criterion including location #12 (west of the site), location #18 (southwest corner of Seventh and Mission Streets) and location #20 (an open area approximately 200 feet west of Seventh Street and 200 feet north of Mission Street). Location #12 had a hazard violation of 2.2 hours, location #18 a hazard violation of 1.2 hours, and location #20 a hazard violation of 5.6 hours.

Overall, a cumulative total of about nine hours per year exceedances of the 36-mph hazard criterion were measured for these three locations. No other exceedances were measured at the remaining 24 locations.

Compared to the Tenth and Market site, this area experiences considerably less wind.

C. Purchase Alternative

No purchase site has been identified. No setting can be described.

D. Lease Alternative

No lease site has been identified. No setting can be described.

E. No Action Alternative

Federal employees would continue to be housed in various federally owned and leased spaces.

3.15 ARCHAEOLOGICAL RESOURCES

Information presented in this section is drawn from a cultural resources inventory report prepared by ARCHEO-TEC. This report, included for reference as Appendix K, describes the archaeological resources that may be affected by construction of the proposed federal office building at each of the alternative sites.

The term "archaeological resources" refers to remains and sites associated with human activities that may include ethnohistoric Native American archaeological sites, historic archaeological sites, and elements or areas of the natural landscape that have traditional cultural significance.

Several state and federal laws require that a project's effects on cultural resources be considered prior to construction. These include the NEPA, the Archeological and Historic Preservation Act of 1974, and the Native American Graves Protection and Repatriation Act of 1990. Provisions for the protection of cultural resources in the California Environmental Quality Act (CEQA), State CEQA Guidelines, may also be addressed through the 106 review process.

3.15.1 Regional Setting

Prehistoric/Protohistoric Period

When the Spanish first explored Northern California in the last quarter of the 18th Century, the region possessed what has been described as "the densest Indian population anywhere north of Mexico" (Margolin 1978:1). It has been estimated that between 7,000 and 10,000 Native Americans inhabited the naturally bountiful coastal area between Monterey County's Point Sur and the San Francisco Bay (Kroeber, 1925; Margolin, 1978:1).

When University of California archaeologist Nels C. Nelson conducted the first intensive archaeological survey of the region in 1907 and 1908, he recorded no less than 425 shellmounds (massive heaps of ash, shell, and cultural refuse) on or near the shoreline of the Bay (Nelson, 1909, 1910a). Today, extensive and ongoing development has eroded this archaeological record. Relatively few Native American shellmounds or other types of prehistoric sites have been systematically investigated by archaeologists, and many basic research questions pertaining to the complex prehistory of the San Francisco Bay region remain unanswered for lack of first-hand data.

Recent archaeological work in San Francisco has revealed that numerous relatively intact prehistoric deposits may be scattered throughout many parts of the City, particularly in the South of Market area. Research indicates that most deposits in the South of Market area were deeply buried beneath the region's sand dunes long before the beginning of the historic era. For the most part, these sites are buried deep enough to have been spared the impacts of more than a century of intensive development.

Spanish and Mexican Periods

Between the appearance of the first Spanish ship to sail through the Golden Gate in 1775 (the San Carlos under the command of Lieutenant Juan Bautista de Ayala) and the mid-19th century discovery of gold at Sutter's Mill, population and maritime traffic in the San Francisco Bay were extremely limited. The principal centers of Spanish, and later Mexican, activity in the region were the Presidio and Mission Dolores.

From the founding of the Mission and the Presidio in 1776 to the beginnings of Yerba Buena village (the original townsite of the City of San Francisco) in 1835, it appears unlikely that there was any systematic occupation of the South of Market area. Consequently, there is little likelihood of encountering cultural resources in the area dating from this period.

Early American and Gold Rush Periods

July 8, 1846 marked the conversion of the hamlet of San Francisco from Mexican to American jurisdiction. On that day, a landing party from the sloop-of-war Portsmouth, under the command of John B. Montgomery, claimed California for the United States. At the time, the City's 200 permanent residents occupied some 50 buildings scattered throughout the Yerba Buena Cove area (Soule et al., 1854:173).

Following the American seizure, Yerba Buena began to grow rapidly. In 1847, Jasper O'Farrell, a civil engineer and newly appointed city surveyor, laid out the basic grid plan for the streets of San Francisco, delineating hundreds of "water lots", parcels of land along Yerba Buena cove that were at least partially exposed during periods of low tide. Throughout 1847, many of these lots were sold at auction, setting the stage for the explosion of landfilling that would push the edge of the San Francisco waterfront well to the east of Montgomery Street.

Within months of the discovery of gold in the Sierra Nevada foothills in 1849, San Francisco was transformed from a sleepy hamlet into what has been described as an "instant city" (Lockwood, 1978). The population boom accompanying the Gold Rush prompted the first settlement and development of the South of Market area. One of the earliest settlements in the area was called Happy Valley, an encampment first of tents, then frame houses, nestled among the sand dunes to the south of Market Street.

By the 1850s, the leveling of dunes in the South of Market area began. This process of topographic modification was complete by the mid-1870s, opening the way for the further development of the area.

The 20th Century (1906 to the Present)

In the aftermath of the Great Earthquake and Fire of April, 1906, San Franciscans began the task of rebuilding their city. In some portions of the city, these renovation efforts proceeded

with amazing rapidity. This was not the case, however, in parts of the South of Market area. Archival sources indicate that many areas remained vacant until at least 1913.

By the close of the first half of the 20th century, however, much of the area had assumed the basic architectural and demographic characteristics that exist today.

3.15.2 Site Specific Setting

A. Tenth and Market Alternative

A review of the relevant archival literature revealed that the subject property was situated near an ecotone -- an area of environmental transition -- during the late Prehistoric/Protohistoric Period. Further, several extensive, well preserved and significant prehistoric archaeological sites have recently been encountered and investigated in relatively close proximity to the site. As such, the possible presence of significant, or potentially significant, subsurface prehistoric/protohistoric cultural resources on the property cannot be eliminated on the basis of available data.

Archival sources show little, if any, cultural activity occurring within the site vicinity during the Spanish, Mexican, or Early American historical eras. As such, there appears to be little chance of encountering significant, or potentially significant, subsurface cultural resources from the early historic era.

The subject property was slow to develop throughout most the 19th century. Nevertheless, at least one structure and, perhaps a variety of associated cultural features, existed within the confines of the site since the early 1850s -- the height of the Gold Rush Period. Although specific archival data are generally lacking, this structure, as well as a variety of others that appeared during the mid-to-late 1850s, probably served as a residence and, perhaps, small scale commercial establishment. A review of archival data related to 19th century cutting, filling, and other topographic alteration suggests that intact Gold Rush era cultural resources may exist beneath the ground surface at one or more locations on the project site.

From the late 1860s or early 1870s until the turn of the century, the site was primarily devoted to commercial and industrial uses. For example, a large lumber and mill company dominated the central portion of the site during the final decades of the 19th century. In addition to several other industrial concerns, an engine company of the San Francisco Fire Department was located at 1749 Market Street, near the western perimeter of the property, during the later decades of the century.

Following the Great San Francisco Earthquake and Fire of 1906, the site was slow to rebuild. Nothing but scattered lumber piles occupied the property as late as 1913. For the most part, the structures that were built onsite during the 1920s and 1930s were, like those preceding them,

devoted to commercial and/or industrial uses. In the years following World War II, the site assumed its present configuration and characteristics.

B. Seventh and Mission Alternative

Similar to the Tenth and Market site, the Seventh and Mission site was situated near an ecotone -- an area of environmental transition -- during the late Prehistoric/Protohistoric Period. In addition, several extensive, well preserved and significant prehistoric archaeological sites in relatively close proximity to the site have recently been encountered and investigated. Consequently, the possible presence of significant, or potentially significant, subsurface prehistoric/protohistoric cultural resources on the property cannot be eliminated on the basis of available data.

Archival sources show little, if any, cultural activity occurring within the site vicinity during the Spanish, Mexican, or Early American historical eras. As such, there appears to be little chance of encountering significant, or potentially significant, subsurface cultural resources from the early historic era.

The Seventh and Mission Alternative site was slow to develop throughout most of the 19th century. As far as can be determined from a review of available historical documents, no evidence of systematic development or occupation of the site had occurred by the height of the Gold Rush era in the early 1850s. The first documented examples of development occurred during the Later Gold Rush era of the mid-1850s. The 1857 U.S. Coast and Geodetic Survey map of San Francisco shows several structures onsite at that time. These structures were likely associated with other cultural features -- wells, privies, and or trash pits. Although specific archival data are generally lacking, these mid-19th century structures probably served as residences. A review of archival data related to 19th century cutting, filling, and other topographic alteration suggests that intact cultural resources from the Later Gold Rush era may exist beneath the ground surface at one or more locations on the site.

From the late 1860s or early 1870s until the turn of the century, the site was primarily devoted to residential uses. In addition, a few small-scale commercial ventures existing at various locations on the site during the final decades of the 19th century.

Following the Great San Francisco Earthquake and Fire of 1906, the site was slow to rebuild. The 1913 Sanborn maps reveal that substantial areas of the northern portion of the property remained vacant seven years after the earthquake and fire. However, by the close of the first half of the 20th century, the site had assumed its present configuration and characteristics.

C. Purchase Alternative

The Purchase Alternative would involve purchasing an existing building at an undetermined location in the CBD. As no specific building has been identified, the site specific setting cannot be described.

D. Lease Alternative

The Lease Alternative would involve the lease of office space at an undetermined site in the CBD. As no specific location has been identified, the site specific setting cannot be described.

E. No Action

Federal agencies already occupy a number of leased and owned facilities throughout the CBD.

4.0 ENVIRONMENTAL CONSEQUENCES

This section analyzes the environmental consequences that would result from implementation of the proposed federal building project. The environmental consequences are examined with regard to sixteen issue areas including Geology and Landform, Vegetation and Wildlife, Drainage, Air Quality, Noise, Natural or Depletable Resources, Land Use Consistency, Socioeconomics and Real Estate Market, Aesthetics/Visual Resources, Historic Resources, Public Utilities and Public Services, Transportation and Circulation, Hazardous Substances, Wind, Archaeological Resources and Shadow. For each issue area the methodology used to evaluate impacts and the significance thresholds used to determine the level of impact are described. Thresholds vary depending on the issue area being examined.

Impacts are examined on three levels--short-term, long-term and cumulative--and are categorized according to their significance. Impact categories include:

[B] Beneficial impacts which improve existing conditions. A beneficial impact is a consequence brought about by the project which will improve or have a positive affect on the environment.

[LS] Adverse project impacts found to be less than significant. Less than significant impacts describe the consequences of a project that are not sufficiently disruptive to require mitigation measures. Minor changes in the environment that have no serious consequences on the abundance or diversity of plant or animal life, for example, are classified as adverse but less than significant.

[SM] Significant adverse environmental impacts that can be feasibly mitigated or avoided. In these cases, the consequences of a project exceed significance thresholds and therefore are considered sufficiently serious that some form of mitigation planning is needed. These mitigations can involve modifications to the project, changing the project design to avoid conflicts with environmental values, or performing data collection procedures and other mitigation prior to construction (such as archaeological data recovery or programs).

[SU] Significant unavoidable adverse impacts which cannot be mitigated. A significant unavoidable impact is a problem for which a solution has not been formulated due either to the limits of technical and/or scientific knowledge or infeasibility due to technical, scientific, economic, or social policy reasons.

In cases where impacts can be mitigated, appropriate measures are identified which are linked to the specific impact via numbering. For example, in the Geology and Landform section, 4.1, impacts are numbered **4.1 (A)-1, 4.1 (B)-1**, etc. corresponding to the appropriate alternative (A. Tenth and Market Alternative, B. Seventh and Mission Alternative, C. Purchase Alternative, D.

Lease Alternative, E. No Action Alternative). Mitigations are similarly numbered with the addition of a lower case letter identifying the sequence of the mitigation as it corresponds to the impact (**4.1(A)-1** a, **4.1(A)-1** b, **4.1-1(A)** c, etc).

4.1 GEOLOGY AND LANDFORM

4.1.1 Impact Assessment Methodology and Significance Thresholds

The potential impacts of the proposed project were assessed based upon a review of the available published literature referenced in Section 3.1, regional geologic mapping, and aerial photos. The City of San Francisco does not have adopted significance thresholds to assess geologic impacts under the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA). The City of San Francisco does, however, identify potential problematic geologic areas within the *City and County of San Francisco Master Plan* (1988) and *San Francisco Seismic Safety Investigation* (1974). These documents have been utilized to develop the following criteria for EIS/EIR assessment purposes. Geology and landform impacts are considered potentially significant if the project would:

- Expose people or structures to major geologic hazards (landslides, subsidence, erosion and liquefaction)
- Change substantially the topography or any unique geologic or physical features of the site.

Cumulative geologic impacts would be considered significant if the proposed project would contribute to the exposure of new populations to geologic hazards associated with the above conditions.

4.1.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.1(A)-1 Instability of onsite soils may result in potential short-term impacts to grading and excavation activities. This impact is considered potentially significant but mitigable. [SM]

Project implementation at the Tenth and Market Alternative site would require onsite grading and excavation associated with the subterranean parking structure. The approximate depth of the below grade level is 20' and the square footage is estimated to be 150' x 550'. Approximately 60,000 cubic yards would be excavated for the below grade level (excluding the foundation system) (Ciprazo, written communication, June 12, 1995). Unengineered artificial fill may be encountered onsite, and is assumed to be prone to instability. Due to the potential for soil instability onsite, potential short-term impacts to grading and excavation activities may occur.

As previously discussed in Section 3.1, the Tenth and Market Alternative site is not located within a Special Geologic Study Area or Alquist-Priolo Special Studies Zone (areas along active faults, one-quarter mile or less in width, to provide for public safety in hazardous fault zones). Life Safety Policy 4 of the Community Safety Element of the *San Francisco Master Plan*, as implemented by the San Francisco Building Code, requires geologic or soil engineering site investigations and compensating structural design based on findings for all new structures in special geologic study areas. The federal government is generally exempt from local regulations. However, several statutes temper this exemption including the National Environmental Policy Act and the Intergovernmental Cooperation Act of 1968. These statutes require consideration of local comments and regulations on significant federal actions. Therefore, construction activities would take into consideration the San Francisco Building Code and Excavation Standards of the California Occupational Safety and Health Agency (CAL/OSHA). Compliance with applicable codes would mitigate short-term impacts to less than significant levels.

Impact 4.1(A)-2 Construction and excavation activities may require dewatering activities due to shallow groundwater occurrence onsite. Short-term discharge to storm drains could reduce receiving water quality. Any discharge would require an NPDES permit from the Regional Water Quality Control Board (RWQCB). Compliance with discharge requirements would eliminate any significant impacts to receiving water quality. [LS]

Ground water sampling conducted on the Tenth and Market Alternative site from 1990 to 1993 indicate ground water levels on the site range from approximately 17 feet to 23 feet below grade. Excavation activities associated with the proposed subterranean parking structure would be up to a depth of 20 feet and require removal of approximately 60,000 cubic yards of soil (not including excavation for the foundation system) (Ciprazo, written comm., June 12, 1995). Because the potential for shallow ground water conditions exists within the project area, and may occur onsite, dewatering may be required. The discharge of ground water to storm drain infrastructure may contribute to a reduction in receiving water quality. Ground water and soil contamination has been documented within the downtown area and may be present in the site vicinity. Any discharges associated with dewatering activities would require a National Pollution Discharge Elimination System (NPDES) Permit from the California Regional Water Quality Control Board (RWQCB). Permit requirements typically address water quality parameters, including priority pollutants. Compliance with discharge requirements would reduce potential impacts to receiving water quality to a less than significant level. The onsite ground water levels would be established within the site-specific soils engineering study required under Life Safety Policy 4 as implemented by the San Francisco Building Code. The engineering study will also assess the potential for subsidence associated with dewatering and develop measures to prevent subsidence. Because construction activities and project design would incorporate these measures, impacts from subsidence would not be significant.

Impact 4.1(A)-3 Construction activities could result in erosion of soils and subsequent deposition of sediments offsite. [SM]

Project construction and grading activities would involve onsite operation of heavy equipment, demolition and removal of building structures, onsite vegetative cover, and cutting of shallow excavations. While the project site is relatively flat and the potential for soil erosion is considered to be low, peak storm water runoff could result in short-term sheet erosion within areas of exposed or stockpiled soils. Furthermore, onsite compaction of soils by heavy equipment may reduce infiltration capacity of soils, increase runoff and erosion potential. If uncontrolled, these soil materials could result in engineering problems including the blockage of storm drains and downstream sedimentation. This condition can be prevented by specifying Best Management Techniques (BMTs) to reduce erosion of disturbed soils.

2. Long-Term

Due to its location within a seismically active region, the Tenth and Market Alternative site would be subject to potential long-term geologic hazards associated with seismic activity. These geologic hazards and their potential significance are discussed below.

Impact 4.1(A)-4 Project implementation would not significantly alter any existing landforms, thus resulting in less than significant impacts. [LS]

Landforms. Project implementation would not significantly alter any landforms on the project site. Although project implementation would require excavation for foundation and below grade parking structure construction, extensive grading onsite would not be required due to the existing site topography. Therefore, potential impacts associated with onsite landforms would be less than significant.

Impact 4.1(A)-5 Potential impacts associated with groundshaking, such as rupture and ground acceleration, would be reduced to a minimum due to GSA compliance with specified construction standards and regulations. [LS]

Groundshaking. No active or inactive faults are known to exist on or adjacent to the proposed project site. The site is not located within any Alquist-Priolo Special Studies Zone. Potential impacts associated with onsite surface fault rupture are, therefore, less than significant.

Although the Tenth and Market Alternative site is not subject to potential onsite fault rupturing, the site could be affected by very strong groundshaking (intensity "C" per Table 3.1-2) from a seismic event along a nearby fault. Significant faults within the region capable of generating strong ground motion are listed in Table 3.1-1 (refer to Section 3.1).

The proposed project would be designed to meet current seismic engineering standards of the Uniform Building Code (UBC). Current structural specifications contained within the UBC have

generally proven to be satisfactory under conditions of earthquake-induced, strong groundshaking from "near-field" seismic events. As the proposed project would be designed in accordance with these codes, potential impacts associated with groundshaking are less than significant.

Impact 4.1(A)-6 There would not be significant potential impacts associated with liquefaction due to the General Services Administration compliance with specified construction standards and regulations. [LS]

Liquefaction. The site is located in proximity to areas of the Mission Creek Drainage that were reclaimed with unengineered fill. These areas are also underlain with Bay Mud deposits, which may be prone to liquefaction during a seismic event. As previously discussed, project design would be in accordance with all applicable UBC regulations. Therefore, impacts associated with liquefaction would be less than significant.

Impact 4.1(A)-7 There would not be significant potential impacts associated with subsidence due to General Services Administration compliance with specified construction standards and regulations. [LS]

Subsidence. The Tenth and Market Alternative site is underlain with alluvial soils that have the potential for subsidence associated with increased static loads or ground water migration. Project implementation is not expected to alter long-term ground water levels in the project area. However, the potential for long-term subsidence associated with the placement of structures does exist on the project site. Because GSA would assess and address subsidence in accordance with Community Safety Element, Life Safety Policy 4, and all applicable UBC regulations, potential impacts associated with subsidence would be less than significant.

3. Cumulative

Implementation of mitigation measures on a project by project basis would reduce potential cumulative impacts associated with geologic hazards in the San Francisco area to a less than significant level. With regard to exposure of populations to geologic hazards, project implementation would not exacerbate the existing geologic hazards associated with the San Francisco area, nor would it increase the number of people exposed to these hazards because the building would conform to stringent structural standards. In addition, the Tenth and Market Alternative site is not located in a special geologic studies area. Therefore, cumulative impacts are not significant.

4. Mitigation Measures

The following mitigation measures are proposed to reduce short-term geologic/landform impacts associated with project implementation at the Tenth and Market Alternative site.

4.1(A)-1 a) The proposed project shall comply with the Community Safety Element, Life Safety Policy 4, which requires preparation of a geologic or soil engineering site investigation, and compensating structural design based on findings, for all new structures. Such an investigation shall assess potential impacts associated with groundshaking, liquefaction, and subsidence. Recommendations shall be considered for inclusion into the project design.

b) The proposed project shall comply with the San Francisco Building Code and Excavation Standards of the California Occupational Safety and Health Agency (CAL/OSHA).

4.1(A)-2 a) During construction activities, a storm water prevention plan specifying Best Management Techniques (BMTs) shall be utilized to control movement of sediments offsite, thereby reducing the amount of sediment entering the storm drain/sewer system. BMT's include siltation barriers, berms and associated drainage mechanisms designed to protect City streets and infrastructure from damage due to stormwater runoff. These techniques shall be subject to review and comment by the Industrial Waste Division of the San Francisco Public Works Department. Specified measures are as follows:

- Stabilization of stockpiled materials.
- Placement of sandbags, hay bales, silt fences, or other barrier devices downslope of graded areas to prevent entrainment of exposed soils.
- Installation of sediment barriers and/or traps around drainage infrastructure.
- Prevention of off-site tracking of sediment by vehicles through stabilized construction entrances.
- Periodic washdown (into sediment traps) of affected imprevious surface areas.

B. Seventh and Mission Alternative

1. Short-Term

The impacts associated with the Seventh and Mission Alternative are similar to those of the Tenth and Market Alternative and will not be repeated in this section.

Implementation of the proposed project at the Seventh and Mission Alternative Site would result in construction approximately three blocks east of the Tenth and Market Alternative Site. The Seventh and Mission site has been mapped within a special geologic study area in which there

are geological hazards. As a result, this site would be more subject to liquefaction and subsidence than the Tenth and Market Site. However, these hazards could be mitigated through implementation of the same mitigation measures described under the Tenth and Market Alternative (see measure 4.1(A)-1 a).

2. Long-Term

Due to its location within a seismically active region, the Seventh and Mission Alternative site would be subject to potential long-term geologic hazards associated with seismic activity. These geologic hazards and their potential significance are similar to those discussed in regard to the Tenth and Market Alternative.

Landforms. Project implementation would not significantly later any landforms on the project site. Although project implementation would require excavation for foundation and below grade parking structure construction, extensive grading onsite would not be required due to the existing site topography. Therefore, potential impacts associated with onsite landforms would be less than significant as stated in impact 4.1(A)-4 above.

Groundshaking. No active or inactive faults are known to exist on or adjacent to the proposed project site. The site is not located within any Alquist-Priolo Special Studies Zone. Potential impacts associated with onsite surface fault rupture are, therefore, less than significant as stated in impact 4.1(A)-5.

Although the Tenth and Market Alternative site is not subject to potential onsite fault rupturing, the site could be affected by violent groundshaking (intensity "B" per Table 3.1-2) from a seismic event along a nearby fault. Significant faults within the region capable of generating strong ground motion are listed in Table 3.1-1 (refer to Section 3.1).

As with the Tenth and Market Alternative, the proposed project would be designed to meet current seismic engineering standards of the Uniform Building Code (UBC). Current structural specifications contained within the UBC have generally proven to be satisfactory under conditions of earthquake-induced, strong groundshaking from "near-field" seismic events. As the proposed project would be designed in accordance with these codes, potential impacts associated with groundshaking are less than significant.

Liquefaction. As previously discussed in Section 3.1, the Seventh and Mission Alternative site is located in a Special Geologic Study Area and a Liquefaction Hazard Area, as designated in the Community Safety Element. The site is also located in proximity to areas of the Mission Creek Drainage that were reclaimed with unengineered fill. These areas are also underlain with Bay Mud deposits, which may be prone to liquefaction during a seismic event. Under the Plan's Life Safety Policy 4, implemented by the Building Code, the proposed project would require preparation of a geologic or soil engineering site investigation, and compensating structural design based on findings, for all new structures. Potential impacts associated with liquefaction

would be assessed during this investigation, and subsequent recommendations would be included in project design. As previously discussed, project design would be in accordance with all applicable UBC regulations. Therefore, impacts associated with liquefaction would not be significant.

Subsidence. The Tenth and Market Alternative site is underlain with alluvial soils that have the potential for subsidence associated with increased static loads or ground water migration. Project implementation is not expected to alter long-term ground water levels in the project area. However, the potential for long-term subsidence associated with the placement of structures does exist on the project site. Potential impacts associated with subsidence would be assessed and mitigated through compliance with Community Safety Element, Life Safety Policy 4, and all applicable UBC regulations. Therefore, potential impacts associated with subsidence would be less than significant.

3. Cumulative

Locating the proposed federal building in the downtown area would expose larger numbers of persons to future earthquake hazards if a seismic event occurred during the work day due to the Seventh and Mission Alternative's location in a special geologic study area. However, because new structures are subject to stringent structural standards, people working in new buildings would be relatively safer than those working in older existing buildings. In addition, implementation of mitigation measures on a project by project basis would reduce potential cumulative impacts associated with geologic hazards in the San Francisco area to a less than significant level. Therefore, cumulative impacts are not considered significant.

4. Mitigation Measures

Potential geologic/landform impacts associated with implementation of the Seventh and Mission Alternative would be reduced through implementation of the mitigation measures previously discussed with regard to the Tenth and Market Alternative Site. Refer to measures 4.1(A)-1 and 4.1(A)-2.

C. Purchase Alternative

1. Short-Term

Implementation of the Purchase Alternative would most likely result in the purchase of an existing building in the greater Civic Center area or in the Central Business District. Occupancy of a purchased building would involve interior retrofitting of an existing building, and is not expected to alter the site. Therefore, implementation of this alternative would not result in any short-term geologic/landform impacts.

2. Long-Term

Implementation of the Purchase Alternative would most likely result in the purchase of an existing building in the greater Civic Center area or in the Central Business District. As this building would already exist, building design and construction would be in compliance with Life Safety Policy 4 and applicable UBC regulations regarding geologic hazards. In the event that the purchased building is not in compliance with these regulations, retrofitting would take place prior to occupancy. Therefore, implementation of this alternative would not result in any geologic/landform impacts.

3. Cumulative

With regard to exposure of populations to geologic hazards, implementation of the purchase alternative would not exacerbate the existing geologic hazards associated with the San Francisco area, nor would it increase the number of populace exposed to these hazards. Therefore, cumulative impacts are not significant.

4. Mitigation Measures

Implementation of the Purchase Alternative would not result in any new short- or long-term impacts to geology. Therefore, no mitigation measures are required.

D. Lease Alternative

1. Short-Term

Implementation of the Lease Alternative would most likely result in occupancy of leased office space in the greater Civic Center area or in the Central Business District. Occupancy would involve interior retrofitting of an existing building, and is not expected to alter the site. Therefore, implementation of this alternative would not result in any short-term geologic impacts.

2. Long-Term

Implementation of the Lease Alternative would most likely result in the lease of an existing building in the greater Civic Center area or in the Central Business District. As this building would already exist, building design and construction would be in compliance with Life Safety Policy 4 and applicable UBC regulations regarding geologic hazards. In the event that the leased building is not in compliance, necessary retrofitting would be completed to bring the building into compliance or GSA would not lease the space. Therefore, implementation of this alternative would not result in any long-term geologic impacts.

3. Cumulative

Cumulative impacts associated with geologic hazards in the San Francisco area are less than significant. With regard to exposure of populations to geologic hazards, leasing space would not exacerbate the existing geologic hazards associated with the San Francisco area, nor would it increase the number of populace exposed to these hazards. Therefore, cumulative impacts are not significant.

4. Mitigation Measures

Implementation of the Lease Alternative would not result in any short- or long-term impacts to geology. Therefore, no mitigation measures are required.

E. No Action Alternative

1. Short-Term

Implementation of the No Action Alternative would entail the continued use of leased and federally owned space. No additional construction would occur. Therefore, no short-term geologic impacts would be associated with implementation of this alternative.

2. Long-Term

Continued use of the existing federally-owned or commercially leased space would not alter existing geologic conditions. Therefore, no long-term geologic impacts would be associated with implementation of this alternative.

3. Cumulative

Continued use of the existing Federally owned or commercially leased space would not alter the existing geologic conditions, nor would it expose additional populace to geologic hazards in the San Francisco area. Therefore, no cumulative geologic impacts would be associated with implementation of this alternative.

4. Mitigation Measures

Implementation of the No Action alternative would not result in any additional short- or long-term impacts to geology. Therefore, no mitigation measures are required.

4.2 VEGETATION AND WILDLIFE

4.2.1 Impact Assessment Methodology and Significance Thresholds.

Project impacts were determined through a query of the California Department of Fish and Game's Natural Diversity Database (CNDDB), site visits conducted by Fugro West, Inc., and review of previously prepared City of San Francisco environmental documents.

For purposes of this analysis, an impact would be considered significant to vegetation or wildlife if it is expected to cause any reduction in population of species considered rare, threatened, endangered, and/or sensitive by responsible monitoring agencies (e.g., U.S. Fish and Wildlife Service and California Department of Fish and Game).

4.2.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.2(A)-1 Construction activities would increase noise and dust levels. This impact is considered less than significant. [LS]

Noise and dust associated with site preparation and building construction activities may disturb urban wildlife species utilizing the project area. However, these species are widespread in the region and this disturbance would not result in a significant impact.

Impact 4.2(A)-2 Construction may require the removal of street trees. This impact is considered less than significant. [LS]

Construction of the proposed federal building may include the removal of street trees (less than four), which would be reviewed on a case-by-case basis. Once the site is developed, onsite landscaping would replace some or all of the lost vegetation, and wildlife using those trees for cover, nesting, and foraging may recolonize the site.

Impact 4.2(A)-3 No sensitive biological resources were found onsite; therefore, the proposed action would not result in a significant impact to sensitive species. This impact is considered less than significant. [LS]

No rare, endangered, threatened, exotic, important, or otherwise sensitive biological resources, or habitats were found at the Tenth and Market Alternative site, nor are any expected given the urbanized conditions.

2. Long-Term

Impact 4.2(A)-4 Significant long-term impacts from the Tenth and Market Alternative would not result from temporary vegetation loss. This impact is considered less than significant. [LS]

The development of the proposed Federal Building would not result in significant long-term vegetation and/or wildlife impacts because the site is primarily urbanized and is utilized by common urban species. Including landscape vegetation around the building would provide replacement habitat for temporarily displaced populations.

3. Cumulative

Because the proposed project, in conjunction with approved and pending projects in the vicinity, would not remove any natural habitat and would incorporate landscaping in project design, no significant cumulative impacts to biological resources would result.

4. Mitigation Measures

Impacts resulting from the development of the Tenth and Market Alternative site for the Federal Building would not have any significant impacts to vegetation and wildlife. Therefore, no mitigation is required.

B. Seventh and Mission Alternative

1. Short-Term

Impact 4.2(B)-1 Construction activities would increase noise and dust levels. This impact is considered less than significant. [LS]

Noise and dust associated with site preparation and building construction activities may disturb urban wildlife species utilizing the project area. However, these species are widespread in the region and this disturbance would not result in a significant impact.

2. Long-Term

Impact 4.2(B)-2 Significant long-term impacts from the Seventh and Mission Alternative would not result from temporary vegetation loss. This impact is considered less than significant. [LS]

The development of the Seventh and Mission Alternative site for a Federal Building would not result in significant long-term vegetation and/or wildlife impacts because the site is primarily

urbanized and is utilized by common urban species. Including landscape vegetation around the building would provide replacement habitat for temporarily displaced populations.

3. Cumulative

The cumulative impacts of the Seventh and Mission Alternative site are the same as the cumulative impacts of the Tenth and Market Alternative.

4. Mitigation Measures

Impacts resulting from the development of the Seventh and Mission Alternative site for the Federal Building would not have any significant impacts to vegetation and wildlife. Therefore, no mitigation is required.

C. Purchase Alternative

No short-term, long-term or cumulative impacts to vegetation and wildlife would result from the purchase of an existing building for use by federal agencies.

D. Lease Alternative

No short-term, long-term or cumulative impacts to vegetation and wildlife would result from the lease of existing office building space for use by federal agencies.

E. No Action Alternative

Continued use of the existing federally owned or commercially leased space in the San Francisco Central Business District would not result in any short-term, long-term or cumulative impacts to vegetation and wildlife.

4.3 DRAINAGE

4.3.1 Impact Assessment Methodology and Significance Thresholds

The following impact assessment was based upon review of the proposed project grading plans and City and County of San Francisco documents. The assessment of project and cumulative impacts was based upon consultation with the City of San Francisco Department of Public Works. The proposed project is determined to have a significant project-specific or cumulative impact if implementation would increase the risk associated with flooding hazards to an unacceptable level. Potential impacts of sediment discharges on receiving water quality are discussed in Section 4.1.

4.3.2. Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.3(A)-1 Depositing of sediment during dewatering and other construction activities at the Tenth and Market Alternative site as well as potential entrainment and offsite movement of disturbed soils may result in sediment deposition within project area drainage/sewer lines. This impact is considered to be less than significant. [LS]

Standard dewatering practices would be used on-site. Dewatering is discussed in Section 4.1.2 (impact 4.1 (A)-2).

2. Long-Term

Impact 4.3(A)-2 Although drainage patterns at the Tenth and Market Alternative site may be altered by the proposed project, storm runoff volumes and peak flows are not expected to be increased. Therefore, this impact is considered less than significant. [LS]

The Tenth and Market Alternative site is not located within any areas that are subject to significant inundation from either precipitation events, tidal events or reservoir failure. As the Tenth and Market Alternative site is currently covered with impervious surfaces, project implementation would not result in any significant increases in surface areas on the site. City of San Francisco Public Works staff indicate that existing drainage infrastructure is adequate to serve the project area, and that implementation of the project would not result in any increase in the potential for flooding (Anderson, personal communication, 1994). Project design would conform to the Uniform Building Code (UBC) requirements regarding drainage and flood protection. Therefore, impacts would be less than significant.

3. Cumulative

Impact 4.3(A)-3 As the majority of the Bayside drainage area is currently urbanized, increases in impervious surface area associated with cumulative development are not expected to be significant. [LS]

Because the Tenth and Market project would not increase impervious surface areas on the site, cumulative natural hazard impacts associated with increased flooding within the drainage area would be less than significant.

4. Mitigation Measures

Because impacts associated with flooding are considered less than significant, no mitigation measures are required. Mitigation to reduce problems associated with the movement of soils offsite and deposition into the City's infrastructure is presented in Geology and Landform, Section 4.1.

B. Seventh and Mission Alternative

1. Short-Term

Impact 4.3(B)-1 Depositing of sediment during construction activities at the Seventh and Mission Alternative site, potential entrainment and offsite movement of disturbed soils may result in sediment deposition within project area drainage/sewer lines. This impact is considered to be less than significant. [LS]

Short-term impacts for the Seventh and Mission Alternative associated with offsite movement of disturbed soil would be similar to those described under the Tenth and Mission Alternative.

2. Long-Term

Impact 4.3(B)-2 Although drainage patterns at the Seventh and Mission Alternative site may be altered by the proposed project, storm runoff volumes and peak flows are not expected to be increased. Therefore, this impact is considered less than significant. [LS]

The Seventh and Mission Alternative site is not located within any areas that are subject to significant inundation from either precipitation events, tidal events or reservoir failure. The site is currently covered with impervious surfaces. Consequently, project implementation would not result in any increase in impervious surface areas on the site. City of San Francisco Public Works staff indicate that existing drainage infrastructure is adequate to serve the project area, and that implementation of the project would not result in any increase in the potential for

flooding (Anderson, personal communication, 1994). Project design would conform to UBC requirements regarding drainage and flood protection. Therefore, impacts would be less than significant.

3. Cumulative

Cumulative impacts would be similar to those of the Tenth and Market Alternative.

4. Mitigation Measures

Because impacts associated with flooding are considered less than significant and standard construction practices would be implemented, no mitigation measures are required.

C. Purchase Alternative

1. Short-Term

Implementation of the Purchase Alternative would result in the retrofit and occupancy of an existing office building. This retrofit is not expected to significantly alter the exterior portions of the building. Therefore, no short-term construction impacts are expected.

2. Long-Term

As previously discussed, implementation of the Purchase Alternative is not expected to affect portions of the project site outside of the existing building. Therefore, project implementation would not affect existing flow paths or alter peak flow volumes, and natural hazard impacts associated with implementation of this alternative would be less than significant.

3. Cumulative

Because the Purchase Alternative would not affect drainage, it would create no cumulative impacts.

4. Mitigation Measures

No mitigation measures are required.

D. Lease Alternative

1. Short-Term

Implementation of the Lease Alternative would result in the retrofit and occupancy of an existing office building. This retrofit is not expected to significantly alter the exterior portions of the building. Therefore, no short-term construction impacts are expected.

2. Long-Term

As previously discussed, implementation of the Lease Alternative is not expected to affect portions of the project site outside of the existing building. Therefore, project implementation would not affect existing flow paths or alter peak flow volumes, and natural hazard impacts associated with implementation of this alternative would be less than significant.

3. Cumulative

Because the Purchase Alternative would not affect drainage, it would create no cumulative impacts.

4. Mitigation Measures

No mitigation measures are required.

E. No Action Alternative

1. Short-Term

Implementation of the No Action Alternative would not alter the existing sites. Therefore, no short-term impacts would be associated with implementation of the No Action Alternative.

2. Long-Term

Implementation of the No Action Alternative would not result in any alterations to the existing drainage of the existing sites, or the surrounding area.

3. Cumulative

Implementation of the No Action Alternative would not affect the existing drainage system in the area. Therefore, implementation of the No Action Alternative would not result in any cumulative impact.

4. Mitigation Measures

No mitigation measures are required.

4.4 AIR QUALITY

4.4.1 Impact Assessment Methodology and Significance Thresholds

The air quality impact analysis was prepared according to guidance contained in *Draft BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans* (Guidelines) (BAAQMD, December 1995). Although they are presently in draft form, the Guidelines are expected to be adopted with minimal changes prior to the end of the public review period for this EIS/EIR. Therefore, this EIS/EIR adopts the significance thresholds of the Guidelines for use in determining the significance of project impacts under both CEQA and NEPA.

The project has the potential to cause two types of air quality impacts: temporary impacts arising from construction activities and long-term impacts associated with increased traffic, the operation of the building, and other ongoing activities.

With respect to construction impacts, the pollutant of greatest concern under the guidelines is fine particulate matter (PM10). The Guidelines set forth a number of control measures that, when implemented, reduce short-term PM10 impacts to a level of insignificance (Draft Guidelines, p.14, Table 2):

a) All active construction areas shall be watered at least twice daily using reclaimed water.

b) All trucks hauling soil, sand, and other loose materials shall be covered or maintain at least two feet of free-board.

c) All unpaved access roads, parking areas and staging areas at the project construction site shall be paved or watered three times daily, or be stabilized using a non-toxic soil stabilizer.

d) All paved access roads, parking areas and staging areas at the project construction site shall be swept daily (preferably with water sweepers).

e) Public streets in the immediate vicinity of the project construction site shall be swept daily (preferably with water sweepers) if visible soil material is carried from the construction site.

If the project includes all of these measures, short-term air quality impacts would be considered less than significant.

For potential long-term air quality impacts, this EIS/R looks at two types of impacts for which the Guidelines have established thresholds. First, BAAQMD has adopted thresholds based on total daily emissions for three criteria pollutants: Reactive Organic Gasses (ROG), Nitrogen

Oxides (NOx), and Particulate Matter (PM10). The threshold for each is 80 pounds per day. An exceedance of this threshold for any of these pollutants would constitute a significant long-term impact of the project.

Second, the Guidelines also establish a threshold for local carbon monoxide (CO) concentrations due to increased vehicular traffic. The threshold is 9 parts per million (ppm) averaged over 8 hours, and 20 ppm over 1 hour. If increased vehicle emissions would cause local concentrations of CO to exceed either of these ambient standards, this would be considered a significant impact. Where the existing CO level already exceeds these standards, an impact would be significant if it would substantially increase the existing exceedance.

Other potential impacts related to project operations for which the Guidelines have established thresholds -- odors, toxic air contaminants, and accidental releases of acutely hazardous air pollutants -- are not associated with the operation of an office building such as the proposed project.

4.4.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

4.4(A)-1 Construction activity would generate air emissions and affect regional air quality. However, air quality impacts are considered insignificant because construction-related emissions would be reduced through implementation of appropriate control measures. [LS]

Construction-related emissions are generally short-term in duration, but may still cause adverse air quality impacts. Fine particulate matter (PM_{10}) is the pollutant of greatest concern with respect to construction activities. PM_{10} emissions result from a variety of construction activities including excavation, grading, demolition, vehicle travel on unpaved surfaces and vehicle/ equipment exhaust (BAAQMD, 1995). The BAAQMD's approach to CEQA/NEPA analysis of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions (BAAQMD, 1995). The Guidelines include a list of control measures to reduce construction-related PM_{10} emissions. These control measures are subdivided into basic control measures, enhanced control measures (for construction sites greater than four acres), and optional control measures (for large sites or sites adjacent to sensitive receptors). Under the Guidelines, full implementation of the appropriate control measures would result in construction impacts that were less than significant. The Tenth and Market site is less than four acres. Therefore, the basic control measures are appropriate for the site. Because these control measures would be fully implemented by the project applicant, project short-term impacts are considered less than significant.

2. Long-Term

Impact 4.4(A)-2 Emissions due to project implementation would not exceed BAAQMD thresholds. This is considered a less than significant impact. [LS]

The new Federal facilities would generate additional vehicle trips in the Bay Area Air Basin. Peak p.m. vehicle trip generation rates (205 vehicle trips per hour) were taken from the traffic analysis (Wilbur Smith & Associates, 1994) and converted to daily values (2116 vehicle trips per day) using person trip generation rates. The URBEMIS model (Version 5.0) was used to calculate daily vehicle emissions at the time the project is occupied (1999). Model input values used in the analysis are consistent with the Guidelines (BAAQMD, 1995). Project vehicle emissions were calculated for both winter and summer conditions (ambient temperature and fuel vapor pressure). The highest value (winter or summer) for each pollutant is presented in Table 4.4-1 and calculations are documented in Appendix B.

The new Federal facilities would generate electrical demand and result in natural gas combustion for space and water heating. Electrical demand would result in electrical generation emissions from local powerplants. Natural gas combustion would generate emissions directly from the heater burners. Emission factors and usage factors are obtained from the SCAQMD *CEQA Air Quality Handbook* (1993). The electrical demand and natural gas emissions are combined and presented in Table 4.4-1 as utilities.

Table 4.4-1. Tenth and Market Alternative Long-Term Emissions

SOURCE	Pounds per Day		
	ROG	NO_x	PM_{10}
Vehicles	36.7	25.8	3.0
Utilities (Gas & Electric)	0.5	32.0	1.0
TOTAL	37.2	57.8	4.0
BAAQMD Threshold	80	80	80

Total long-term emissions of the Tenth and Market Alternative do not exceed the BAAQMD emissions thresholds. Therefore, these emissions are not considered a significant impact to regional air quality.

Impact 4.4(A)-3 Project implementation would exacerbate the existing exceedances of the State 8-hour carbon monoxide (CO) standard at receptor locations at Van Ness/Hayes, Van Ness/Mission and Tenth/Mission intersections. This is considered a less than significant impact. [LS]

Traffic-congested intersections have the potential to result in high levels of carbon monoxide, known as CO "hot spots." Such "hot spots" are defined as locations where the ambient CO concentrations exceed the State or Federal ambient air quality standards. Sensitive receptors could be adversely affected at concentrations less than the standard. Sensitive receptors are generally defined as land uses that are occupied by persons actively exercising or more sensitive to air pollution, including hospitals, nursing homes, schools and parks. CO can be especially dangerous for people with heart disease, anemia, emphysema, asthma and other respiratory ailments. However, no sensitive receptors occur in the vicinity of the intersections affected by the project.

Receptors selected for analysis are the nearest occupied structures. Locations within a right-of-way (including pedestrian overcrossings, crosswalks and sidewalks), parking lots, or any other locations where exposures are either transitory or work-related are not considered receptors (Caltrans, 1988). However, where no occupied structures were located near an intersection, concentrations were measured from a "worst case" location (e.g., the nearest sidewalk).

Peak PM traffic volumes (turning movements) from the traffic analysis (Wilbur Smith & Associates, 1994) were reviewed to select intersections for hot spot analysis. Intersections which would operate at level of service (LOS) D or below were selected for analysis using the CALINE4 model developed by the California Department of Transportation (Caltrans) (see Section 4.12, Transportation and Circulation for existing and projected levels of service in the project areas). Meteorological inputs to the model are worst-case values for coastal areas as listed in *Air Quality Technical Analysis Notes* (Caltrans, 1988). Emission factors were obtained from the EMFAC7F Model (ARB, 1993a), adjusted for County-specific fleet mix from the BURDEN7F Model (ARB, 1993c) and adjusted for cold start emissions based upon the relationship between the average trip length in the County (6.4 miles) and the cold start distance in the Federal test protocol (3.59 miles). Background CO concentrations were estimated by obtaining 1992 ambient CO concentrations in the project area and "rolling back" to reflect lower CO concentrations in future years. This methodology is consistent with the Guidelines (BAAQMD, 1995). Model inputs reflect winter morning meteorological conditions (cold temperatures, low wind speed, very stable air mass). However, traffic volumes used in the model are p.m. peak values because an a.m. peak hour traffic analysis was not conducted. Therefore, the intersection modeling should be considered conservative because a.m. peak traffic volumes are typically less than p.m. peak volumes.

Eight-hour CO concentrations for project impact scenarios (year 1999) are estimated by subtracting the background concentration (7 ppm) from the 1-hour values, multiplying by a persistence factor (0.7) and adding the 8-hour background concentration (4.7 ppm). 8-hour CO concentrations for cumulative impact scenarios (year 2010) are estimated by subtracting the background concentration (5.2 ppm) from the 1-hour values, multiplying by a persistence factor (0.7) and adding the 8-hour background concentration (3.5 ppm). CALINE4 modeling inputs and outputs are included in Appendix B and the results are presented in Table 4.4-2.

Table 4.4-2. Tenth and Market Alternative Ambient CO Concentrations (ppm 1-Hour/ppm 8-hour)*

Intersection	Receptor	Existing (1999)	Existing + Project (1999)	Cumulative + Project (2010)
Van Ness/Hayes	Worst-case	15.0/10.3	15.1/10.4	9.2/6.3
S. Van Ness/Mission	Single family residential	14.7/10.1	14.9/10.2	8.7/6.0
11th/Mission	Worst-case	10.9/7.4	10.9/7.4	6.6/4.5
10th/Mission	Multi-family residential	12.5/8.6	12.9/8.8	7.5/5.1
9th/Mission	Hotel Potter	15.3/10.5	15.3/10.5	8.3/5.7
9th/Market	Multi-family residential	LOS C	LOS C	11.8/8.1

*In accordance with the BAAQMD Guidelines, localized CO concentrations were estimated only for those intersections that would not operate at an LOS C or better. LOS values for all intersections in the project area are given in Section 4.12, Transportation and Circulation.

The Tenth and Market Alternative (existing + project) would not result in exceedances of the State 1-hour CO standard (20 ppm). However, the Tenth and Market Alternative would exacerbate existing exceedances of the State 8-hour CO standard (9 ppm) at the Van Ness/Hayes, Van Ness/Mission and Tenth/Mission intersections. The incremental increase would be 0.2 ppm or less. The 8-hour CO concentrations are based upon the occurrence of the worst-case wind direction during the entire 8-hour period, which is highly unlikely. Due to the highly conservative nature of the 8-hour values and the small incremental increase in existing CO exceedances, these impacts are considered less than significant.

3. Cumulative

Impact 4.4(A)-4 The project may add to emissions generated by future development. However, because the project is consistent with the CAP and the present rate of development is less than that forecast, these emissions are considered a less than significant impact. [LS]

Future increases in development in the San Francisco area would generate private passenger vehicle trips and additional transit passenger loading on MUNI, BART and other regional transit carriers. Private passenger vehicles, MUNI buses and ferries would generate exhaust emissions that may hinder progress towards attainment of the State ozone, CO and PM_{10} standards. Private passenger vehicles and MUNI buses would also cause re-entrainment of road dust generating PM_{10} emissions. In addition, increased development would increase the demand for utilities which would generate further emissions. However, under the Guidelines, a project's cumulative impacts are not considered significant where the project is consistent with the local general plan and that plan is consistent with the Bay Area '94 Clean Air Plan (CAP). The proposed project

is consistent with the San Francisco Master Plan. The growth assumptions of the San Francisco Master Plan were used to develop the CAP and therefore, the project is consistent with the CAP. Moreover, actual cumulative development in San Francisco is less than had been forecast in the CAP. Therefore, the cumulative impact of the project with increased development is not expected to affect progress towards attainment of State air quality standards and would be less than significant.

Impact 4.4(A)-5 Project implementation would result in small increases in carbon monoxide (CO) concentration at local roadway intersections. However, because local CO concentrations are expected to decrease by 2010, the cumulative impact on the project is considered less than significant. [LS]

The project's cumulative impact on local CO concentrations is based on forecast traffic volumes in the year 2010. These forecasts are based on growth factors from the City's *Guidelines for Environmental Review: Transportation Impacts* (1991) and is discussed in the Transportation and Circulation section of this document. Project CO emissions in the year 2010 resulting from the project and increased development would not result in exceedances of the State 1-hour or 8-hour CO standards (Table 4.4-2). The introduction of reformulated gasoline, zero emission vehicles and low emission vehicles in future years would result in lower vehicle emissions and lower background CO concentrations, preventing future local exceedances of the State 8-hour CO standard. Cumulative project impacts are considered less than significant.

B. Seventh and Mission Alternative

1. Short-Term

Impact 4.4(B)-1 Construction activity would generate air emissions and affect regional air quality. However, air quality impacts are considered insignificant because construction-related emissions would be reduced through implementation of appropriate control measures. [LS]

See the short-term impact discussion for the Tenth and Market Alternative.

2. Long-Term

Impact 4.4(B)-2 Long-term emissions due to project implementation would not exceed BAAQMD thresholds. This is considered a less than significant impact. [LS]

The Seventh and Mission Alternative would provide the same number of square feet of building area and generate the same number of vehicle trips and utility emissions as the Tenth and Market Alternative (see Table 4.4-1). The total long-term emissions of the Seventh and Mission site do

not exceed BAAQMD thresholds. Therefore, these emissions are considered a less than significant impact to regional air quality.

Impact 4.4(B)-3 Project implementation would result in negligible increases in carbon monoxide (CO) concentration at local roadway intersections. These increases would not result in exceedances of the 1-hour or 8-hour State carbon monoxide (CO) standard or exacerbate existing exceedances, and are considered less than significant impacts. [LS]

The results of the CO hot spot analysis for the Seventh and Mission Alternative are presented in Table 4.4-3. The Seventh and Mission Alternative would not result in exceedances of the State 1-hour or 8-hour CO standard or exacerbate existing exceedances. Therefore, impacts on local CO concentrations would be less than significant.

Table 4.4-3. Seventh and Mission Alternative Ambient CO Concentrations (ppm 1-Hour/ppm 8-hour)*

Intersection	Receptor	Existing (1999)	Existing + Project (1999)	Cumulative + Project (2010)
8th/Mission	Multi-family residential	14.5/10.0	14.5/10.0	8.1/5.5
6th/Mission	Delta Hotel	11.5/7.9	11.6/7.9	7.2/4.9
	Hotel	10.2/6.9	10.2/6.9	6.7/4.6
	Rose Hotel	12.1/8.3	12.1/8.3	7.3/5.0
	Hotel Henry	11.1/7.6	11.1/7.6	7.0/4.7
7th/Mission	Hotel Britton	LOS C	LOS C	9.3/6.4
	Hotel Grand Southern			10.2/7.0

*In accordance with the BAAQMD Guidelines, localized CO concentrations were estimated only for those intersections that would not operate at an LOS C or better. LOS values for all intersections in the project area are given in Section 4.12, Transportation and Circulation.

3. Cumulative

Impact 4.4(B)-4 The project may add to emissions generated by future development. However, because the project is consistent with the CAP and the present rate of development is less than that forecast, these emissions are considered a less than significant impact. [LS]

Cumulative impacts for this alternative are the same as for the Tenth and Market Alternative (see Impact 4.4(A)-3).

Impact 4.4(B)-5 Project implementation would result in small increases in carbon monoxide (CO) concentration at local roadway intersections. However, because local CO concentrations are expected to decrease by 2010, the cumulative impact on the project is considered less than significant.

Projected CO emissions in the year 2010 resulting from the project and increased development would not result in exceedances of the State 1-hour or 8-hour CO standards (Table 4.4-3). The introduction of reformulated gasoline, zero emission vehicles and low emission vehicles in future years would result in lower vehicle emissions and lower background CO concentrations, preventing future local exceedances of the State 8-hour CO standard. Cumulative project impacts are considered less than significant.

C. Purchase Alternative

The purchase of an existing building would not result in significant short-term or long-term air quality impacts. Only minimal construction, other than interior alterations, would likely be required to modify the building to suit the proposed Federal occupants. The net amount of occupiable office space would not change, therefore, no new vehicle trips would be generated. Long-term impacts would not be significantly different than prior to federal occupancy.

D. Lease Alternative

Leasing an existing building or buildings would not result in significant short-term or long-term air quality impacts. Only minimal construction, other than interior alterations is likely to be required to modify the building to suit the proposed Federal occupants. The net amount of occupiable office space would not change such that no new vehicle trips would be generated. Long-term impacts would not be significantly different than prior to federal occupancy.

E. No Action Alternative

Under the No Action Alternative, the project would generate no additional emissions as agencies would continue to be housed in federally owned or leased space in San Francisco.

4.4.3 Consistency with the Bay Area '94 Clean Air Plan (CAP)

The Guidelines (BAAQMD, 1995) do not provide guidance for determining consistency of projects with the CAP. However, the Guidelines require consistency determinations for local plans be based upon the consistency of population growth with the CAP and the consistency of rate of increase in vehicle miles traveled (VMT) with the rate of increase in population.

The proposed project is not expected to generate significant population growth, and population growth in San Francisco County is below CAP projections. Therefore, the project would not affect relative VMT growth and is consistent with the CAP.

4.4.4 Conformity with the Federal Clean Air Act

Section 176(c) of the 1990 Amendments to the Federal Clean Air Act prohibits the Federal government from engaging in any activity that does not conform to the applicable implementation plan. The applicable implementation plan is the *Bay Area '94 Clean Air Plan*. Conformity means:

- Conformity with the implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and

- Activities that will not cause or contribute to new violations of standards in the area, increase the frequency or severity of existing violations or delay timely attainment of any standard.

A final rule entitled "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" was published in the Federal Register on November 30, 1993 and provides guidance in complying with Section 176. Section 51.853 of the final rule provides de minimis thresholds which are annual emission rates used to determine if project emissions are of sufficient magnitude that a conformity determination is required. Although the Bay Area Air Basin has been formally designated an attainment area for the Federal ozone standard, Section 175A of the 1990 Amendments to the Clean Air Act requires the State implementation plan to be revised to provide for the maintenance of the standard for at least 10 years. Therefore, the Bay Area Air Basin is considered a maintenance area and is subject to the conformity rule. The conformity threshold for maintenance areas within an ozone transport region is 50 tons per year ROG or NO_x.

Based on 250 operating days per year, annual emissions of the either the Tenth and Market Alternative or Seventh and Mission Alternative are 7.2 tons per year NO_x and 4.7 tons per year ROG. The proposed project is considered to conform to the implementation plan because project annual emissions are less than the de minimis thresholds established in the final rule.

4.5 NOISE

4.5.1 Impact Assessment Methodology and Significance Thresholds

Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of City Police Code). The ordinance requires that noise levels of construction equipment, other than impact tools, not exceed 80 dBA at 100 feet from the source. Impact tools (jackhammers, pile drivers, impact wrenches) must have both intake and exhaust muffled to the satisfaction of the Department of Public Works. Section 2908 of the Ordinance prohibits construction work between the hours of 8:00 p.m. to 7:00 a.m., if noise would exceed the ambient noise levels at the project property line, unless a special permit is authorized by the Department of Public Works. In addition, construction noise may be considered significant if it were to continue for an unusual length of time (e.g., because of peculiar construction requirements). These thresholds are used for evaluation of short-term impacts.

Long-term impacts are evaluated by comparing existing noise levels with those predicted to result with implementation of a project. The EPA considers a long-term increase in noise from 0 to 5 dBA over existing levels to be a slight impact, from 5 to 10 dBA a significant impact, and greater than 10 dBA a serious impact (Environmental Protection Agency, 1980). This threshold is used by this EIS/EIR to assess the impact of long-term increases in noise.

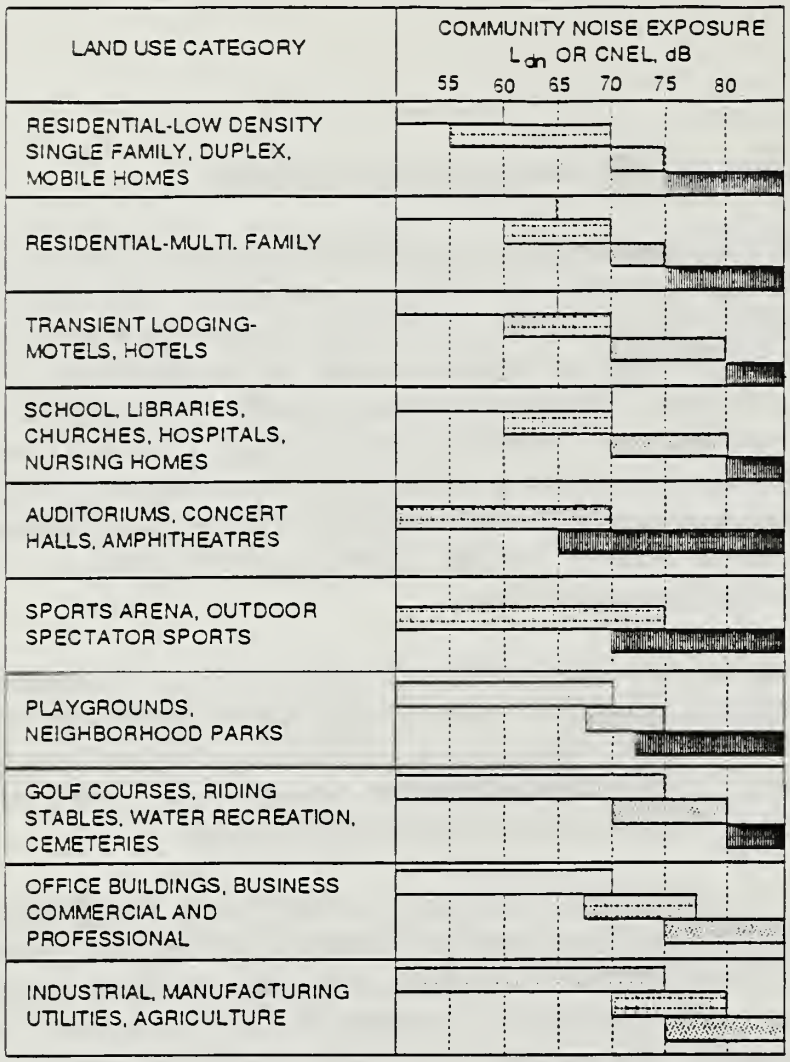
Projected traffic Ldn (Day-Night Average Level) and peak hour noise levels were determined using a modification of the Federal Highway Noise Prediction Model (STAMINA 2.0, published by the Federal Highway Administration [FHWA]). The model uses various parameters including traffic volumes, vehicle mix, and roadway geometry to compute equivalent noise levels during daytime, evening, and nighttime hours. The resulting noise levels are weighted, summed over a 24-hour period, and output as either CNEL (Community Noise Equivalent Level) or Ldn values. Peak hour noise estimates were directly extrapolated from the FHWA model noise calculations. Project traffic volumes, distribution, vehicle mixes, and speeds were derived from the traffic analysis conducted by Wilbur Smith Associates (1994), the Mission Bay Environmental Impact Report (1990), and the City of San Francisco Department of Planning.

4.5.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Construction noise is generally of relatively short duration compared to the longevity of the built structures, lasting from a few days to a period of months. Noise impacts associated with construction activities would typically occur in several distinct phases, each with its own noise characteristics. Figure 4.5-1 illustrates typical construction equipment noise levels. The first phase, site preparation, is generally the loudest and has the shortest duration. Activities that take



INTERPRETATION

NORMALLY ACCEPTABLE

Specific land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in this table to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purpose of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and should be located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL or L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

SOURCE: California Department of Health, Office of Noise Control, 1976.

LAND USE COMPATIBILITY COMMUNITY NOISE ENVIRONMENTS

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 4.5-1

place during this phase include the demolition of buildings, earthmoving, and compaction of soils. High noise levels are created during this phase due to the operation of heavy duty trucks, backhoes, excavators, and front end loaders. Noise levels typically range from 73 to 96 dBA at 50 feet from individual pieces of equipment (Environmental Protection Agency, 1971).

The Bank of America Data Center has indicated that it may be sensitive to the vibrations associated with pile driving. Therefore, GSA has agreed not to drive piles. Instead, a drilled or screwed system of pile foundation would be utilized at the Tenth and Market Alternative. However, vibration measuring equipment would be used at the site and on the sixth and eighth floors of the data center for readings during normal construction activities.

During the second phase, foundation forms are constructed and concrete foundations are poured. Primary noise sources during this phase are heavy concrete trucks and mixers and other trucks with noise levels typically in the 70 to 90 dBA range. The third phase consists of constructing the interior and facade of the structure. Noise levels typical during this phase are in the 60 to 80 dBA range and are associated with hammering, diesel generators, compressors, and light truck traffic. The final construction phase involves site cleanup and landscaping. Primary noise sources include trucks, landscape rollers, and compactors. General noise levels are in the 65 to 75 dBA range at 50 feet (Environmental Protection Agency, 1971).

Impact 4.5(A)-1 Construction of the project would result in an increase in ambient noise levels within the areas of surrounding land uses. Because these levels would not exceed those established by the San Francisco Noise Ordinance, these impacts are considered less than significant. [LS]

Construction of the San Francisco Federal Building, which would take place over a period of approximately 24 to 36 months, would increase noise levels in the area surrounding the project site. Onsite excavation and construction operations, based on information provided by the General Services Administration, would require use of track-type tractors, motor graders, wheeled loaders, haul trucks, scrapers, backhoe loaders, and excavators. No pile driving would be done at this site due to the sensitivity of the electronic equipment at the adjacent Bank of America data center. Foundation supports would consist of drilled caissons. Construction noise levels would fluctuate depending upon the construction phase, equipment type and duration, and the location of onsite operations in relation to existing structures. For the purposes of this EIS\EIR analysis, onsite operations were anticipated to occur a maximum of 8 hours per day with the variations in equipment operating times primarily dependent upon the phase of construction. Project noise levels were assessed using a worst-case scenario that assumed two pieces of equipment operating simultaneously at the perimeter of the Tenth and Market Alternative site. The nearest noise sensitive land use to the site is the Fox Plaza residential tower located approximately 250 feet to the northeast across Market Street. In addition, residential type land uses are also located to the south along Mission Street. These residential land uses are approximately 100 feet from the Tenth and Market Alternative site. Assuming this distance, it is anticipated that construction equipment could result in peak daytime Leqs of

approximately 78.5 dBA and an overall Ldn of 74.5 dBA compared to existing conditions of under 65 dBA.

Additional areas which could be affected due to construction equipment include the Bank of America building to the west of the site and retail-commercial land uses to the east across Tenth Street. These land uses would experience the greatest increases in noise during the demolition of the existing onsite structure located on the north half of the project site. Noise levels near the Bank of America building could reach a peak daytime Leq of 84.5 and Ldn of 80.5, while areas to the east would experience a peak daytime Leq of 80.4 dBA and Ldn of 76.4 dBA. Like the residences along Mission Street, however, these retail and commercial type land uses are currently experiencing relatively high urban noise levels.

Because noise levels are temporary and intermittent and do not exceed levels established in the San Francisco Noise Ordinance (80 dBA at 100 feet), construction related noise impacts are considered less than significant.

Impact 4.5(A)-2 The construction period would require the onsite movement of equipment and workers, and removal of excavated material. This impact is considered less than significant. [LS]

In addition to noise from the site, the construction period is expected to cause traffic noise along access routes to the site (i.e, Market Street, Tenth Street, and Mission Street) resulting from the movement of equipment and workers onto the site. It is anticipated that the major pieces of heavy equipment would be moved onto the site once during each construction phase and would cause an insignificant short-term effect on ambient noise levels. Furthermore, the daily transportation of construction workers is expected to cause insignificant effects since this traffic would not be a substantial percentage of current daily volumes in the planning area, and would not increase traffic noise levels by more than 1 dBA.

2. Long-Term

Development of the proposed project would introduce several long-term noise sources to the Tenth and Market Alternative site including electrical and mechanical equipment, and loading dock areas attached to the Federal Building. In addition, the project would also provide additional square footage for office uses, thereby increasing the traffic noise levels both internal and external to the site.

Impact 4.5(A)-3 Electrical and mechanical equipment to be utilized onsite would introduce a new noise source to the area, but would not cause a significant increase in overall long-term noise levels. [LS]

New office uses proposed on the site may introduce a variety of stationary noise including electrical and mechanical air conditioning equipment, most of which would be located on

rooftops. Areas potentially affected due to the introduction of equipment sources would include the residential land uses located to the south and north. Within this area the structures could be sited at a distance of approximately 100 feet from existing residences. Based on past noise monitoring conducted by Fugro, noise levels from these types of equipment would be approximately 45 dBA within the residential areas.

Although noise levels from equipment sources may be annoying in a quiet environment, existing ambient noise conditions within the area of the site and throughout the Central Business District area would substantially mask the noise from these onsite sources. Because noise levels from the operation of equipment would result in an increase of ambient noise levels of less than 5 dBA, they would not constitute a significant impact. Though insignificant, onsite noise levels could be further reduced by locating equipment away from potential receptor areas, proper selection of equipment, and the installation of standard acoustical shielding.

Impact 4.5(A)-4 External loading docks proposed onsite would introduce an intermittent noise source to the area, but would not cause a significant increase in overall long-term noise levels. [LS]

An additional stationary noise source of concern is the potential introduction of external truck loading and unloading docks as part of the proposed project. Since design plans have not been finalized, the exact onsite location of these project components is unknown. Operations at loading docks typically result in Leqs (20 minute samples) of between 64 and 66 dBA at 75 feet. Based on these noise levels, it is anticipated that Leq noise levels within the area of the residential land uses along Mission Street would be between 56 and 58 dBA. While the instantaneous maximum sound levels (i.e., peaks) generated by loading and unloading of trucks could be annoying to residential and surrounding land use areas, they would be masked by the existing ambient noise levels within the downtown San Francisco. Although peak noise levels would be more noticeable if loading operations were conducted during the early morning or late night hours, these activities would be intermittent. Noise associated with loading activities would increase long-term ambient noise levels by less than 5 dBA, and are therefore considered less than significant.

Impact 4.5(A)-5 Development of the project would add to the existing exceedance of exterior noise land use compatibility standards, but would not cause a noticeable change in ambient noise conditions. Therefore, this impact is considered less than significant. [LS]

Implementation of the proposed project's office type land uses would introduce traffic to the San Francisco downtown area within proximity to the sites, thereby increasing noise levels. The increase in traffic-related noise associated with project implementation can be measured as the noise level change over ambient conditions. A comparison of 1994 noise levels along area roadways without the project to 1994 conditions with the project is contained within Table 4.5-1. As indicated, traffic noise level increases associated with the project would range between

0.2 dBA to 1.1 dBA Ldn, and 0.2 dBA to 2.2 dBA during the peak hour. The greatest increase of approximately 1.1 dBA in the Ldn would occur along Market and Tenth Streets due to the concentration of project generated traffic within this area. The greatest increases in peak hour noise levels of approximately 2.2 dBA would also occur within this area. The remaining project roadways would experience increases in the Ldn and peak hour noise levels of less than 0.9 dBA. Since the majority of the existing land uses near the site are exposed to traffic noise levels in excess of the Master Plan Land Use compatibility objective, any addition to ambient conditions would exacerbate this problem. However, in accordance with EPA criteria, these increases are considered a "slight" impact and would not be perceptible.

Table 4.5-1. Comparison of Traffic Noise Levels

Location	Noise Levels at 50 feet (dBA)[a] With Project		1994 Traffic Noise Levels at 50 feet (dBA)		Change in dBA	
	Ldn	Peak Hour	Ldn	Peak Hour	Ldn	Peak Hour
[1,2] Market St.[b]						
n/o Tenth St.	67.6	66.9	66.5	64.7	+1.1	+2.2
s/o Tenth St.	68.5	67.9	67.6	67.0	+0.9	+.09
[1,2] Van Ness Ave.						
w/o Market St.	72.4	71.8	72.2	71.3	+0.2	+0.5
w/o Grove St.	72.7	72.2	72.5	71.9	+0.2	+0.3
[1] Seventh St.						
s/o Market St.	67.5	66.9	67.2	66.6	+0.3	+0.3
[1,2] Eighth St.						
s/o Market St.	69.0	68.4	68.5	67.9	+0.5	-0.5
[1,2] Ninth St.						
s/o Market St.	70.9	70.1	70.7	69.9	+0.2	+0.2
[1,2] Tenth St.						
s/o Market St.	68.9	68.3	68.6	68.0	+0.3	+0.3
[2] Mission St.[b]	67.8	66.1	66.7	66.1	+1.1	0.0
n/o Seventh St.	66.1	65.4	66.0	65.4	+0.1	0.0
s/o Seventh St.						

Vehicle Emission Noise Source: U.S. Federal Highway Administration STAMINA 2.0.
w/o = west of; e/o - east of; n/o = north of; s/o = south of
[1] Tenth and Market Alternative
[2] Seventh and Mission Alternative
[a] All distances from roadway centerline
[b] Based on Wilbur Smith Associates Peak Hour Link Volumes
* Peak hour periods are between 7 am to 9 am and 4 pm to 6 pm.

3. Cumulative

Impact 4.5(A)-6 Since the cumulative noise levels increases would not be noticeable, the overall contribution to noise levels within the downtown San Francisco area would be considered less than significant. [LS]

Cumulative noise level increases would be related primarily to traffic increases associated with the future development and general growth of the Central Business District. Noise level increases are estimated by comparing the 1994 noise levels to noise levels projected for cumulative 2010 development and growth (Table 4.5-2). Cumulative noise levels within the downtown area would result in increases between 0.6 dBA and 1.7 dBA Ldn and 0.1 to 2.8 dBA during peak hour. According to the EPA's criteria, cumulative traffic noise would have a "slight" impact to all analyzed roadways. While the overall changes in noise levels would add to an already existing problem, they would not be noticeable.

Table 4.5-2. Cumulative 2010 Traffic Noise Levels Compared to 1994 Traffic Noise Levels

Location	Cumulative Noise Levels at 50 feet (dBA)[a]		1994 Traffic Noise Levels at 50 feet (dBA)		Change in dBA	
	Ldn	Peak Hour	Ldn	Peak Hour	Ldn	Peak Hour
[1,2] Market St.[b]						
n/o Tenth St.	68.2	67.5	66.5	64.7	+1.7	+2.8
s/o Tenth St.	69.0	68.4	67.6	67.0	+1.4	+1.4
[1,2] Van Ness Ave.						
w/o Market St.	73.0	72.3	72.2	71.3	+0.8	+1.0
w/o Grove St.	73.3	72.7	72.5	71.9	+0.8	+0.8
[1] Seventh St.						
s/o Market St.	67.9	67.3	67.2	66.6	+0.7	+0.7
[1,2] Eighth St.						
s/o Market St.	69.4	68.8	68.5	67.9	+0.9	+0.9
[1,2] Ninth St.						
s/o Market St.	71.6	71.0	70.7	69.9	+0.9	+1.1
[1,2] Tenth St.						
s/o Market St.	69.5	68.9	68.6	68.0	+0.9	+0.9

Table 4.5-2. (Continued)

Location	Cumulative Noise Levels at 50 feet (dBA)[a]		1994 Traffic Noise Levels at 50 feet (dBA)		Change in dBA	
	Ldn	Peak Hour	Ldn	Peak Hour	Ldn	Peak Hour
[2] Mission St.[b]						
n/o Seventh St.	67.3	66.2	66.7	66.1	+0.6	+0.1
s/o Seventh St.	66.9	66.7	66.0	65.4	+0.9	+1.3

Vehicle Emission Noise Source: U.S. Federal Highway Administration STAMINA 2.0.
w/o = west of; e/o - east of; n/o = north of; s/o = south of
[1] Tenth and Market Alternative
[2] Seventh and Mission Alternative
[a] All distances from roadway centerline
[b] Based on Wilbur Smith Associates Peak Hour Link Volumes
* Peak hour periods are between 7 am to 9 am and 4 pm to 6 pm.

4. Mitigation Measures

Although noise impacts were identified as less than significant, the following measures are advisory and provided to further reduce those impacts which are expected to occur. Noise mitigations are not required but are provided for consideration by GSA.

4.5(A)-1 a) Site preparation and construction activities shall comply with the San Francisco Noise Ordinance (Section 2907b), which requires that each piece of powered equipment, other than impact tools, emit a sound level of not more than 80 dBA at 100 feet.

b) To reduce impacts from non-pile driver construction noise, the General Services Administration shall implement the following:

- Muffle and shield intakes and exhausts.
- Shroud or shield impact tools such as jackhammers.
- Use electric-powered rather than diesel-powered construction equipment as feasible.
- Utilize portable noise barriers within equipment areas and around stationary noise source such as compressors.
- Locate stationary equipment in pit areas or excavated areas as such siting would create noise barriers.

4.5(A)-1 c) A mutually agreed-upon construction routing plan should be drawn up between the City of San Francisco and project developer and retained by the General Services Administration. Construction routes should be located away from noise sensitive land uses as deemed feasible by the City of San Francisco.

4.5(A)-3 The project shall comply with Section 2909, "Fixed Source Noise Levels," which regulates mechanical equipment noise.

4.5(A)-5 Noise generated outside the proposed structure shall be reduced to an interior level of less than 45 dBA (level acceptable to federal facilities). Traffic and general urban noise shall be reduced through the utilization of standard building materials such as precast concrete and insulation; noise attenuation features such as double glazed windows and mechanical ventilation systems that allow sufficient air exchange capacity. In the event that exterior public areas are provided, they should be sited away from potential noise sources.

B. Seventh and Mission Alternative

1. Short-Term

Typical construction equipment noise levels during operations are illustrated in Figure 4.5-1. Operations are anticipated to occur a maximum of 8 hours a day. Sensitive land uses surrounding this site include residential type uses adjacent to the site on the south-southwest property boundary. Assuming operations are at an estimated 50 feet from these uses, which could occur when equipment was operating near the perimeter of the site, construction noise would result in peak daytime Leqs of 84.5 dBA and overall Ldn of 80.5 dBA. At a distance of 100 feet, noise levels would decrease by 6 decibels to 78.5 dBA. This level is below the 80 dBA standard established in the San Francisco Noise Ordinance.

Construction periods are expected to cause traffic noise along access routes to the site from the movement of equipment and workers to and from the site. Because traffic increases would not constitute a significant increase over the existing number of average daily trips within this area, noise impacts under this alternative are anticipated to be less than significant.

Impact 4.5(B)-1 The utilization of pile drivers would result in high intensity noise and vibration impacts. Due to the short-term, intermittent nature of this activity, associated impacts are considered less than significant. [LS]

The project would require pile driving for the placement of retaining walls during the excavation of the subterranean parking garage and for the building foundation. Pile driving is anticipated to occur for approximately 6 to 8 weeks during the construction of the new Federal Building. Hammering would occur during a 5 to 8 minute period for each pile. Conventional unmuffled and unshielded pile drivers emit typical peak noise levels of 101 dBA at a distance of 50 feet

each time the driver strikes the pile. Within the area of surrounding land use, noise levels due to pile driving would be near this level. In addition, the vibration caused by the impact of pile driving would be felt in adjacent and nearby buildings. However, because pile driving is an intermittent activity occurring during construction, and because pile drivers would be fitted with intake and exhaust mufflers, associated noise and vibration impacts are considered less than significant. In addition, the Department of Public Works normally requires that certain actions be taken (i.e., using relatively quiet equipment, limiting hours of operation, etc.) to reduce noise levels and the number of people exposed to noise effects. GSA intends to comply with these procedures.

2. Long-Term

Mechanical equipment and loading dock noise impacts associated with the development of the project at Seventh and Mission would be similar to the Tenth and Market Alternative. Land uses that would be affected by stationary noise sources would include surrounding residential, commercial, and office uses. While maximum noise levels from these sources, particularly loading docks operations, may cause noise annoyance problems, these noise sources would not be sufficient to exceed the community time-weighted threshold. Impacts are, therefore, considered less than significant.

As with the Tenth and Market Alternative, implementation of the Seventh and Mission Alternative would introduce additional traffic to the Central Business District, thereby increasing noise levels. The increase in traffic-related noise associated with project implementation can be measured as the noise level change over ambient conditions. Because it is anticipated that traffic associated with the Seventh and Mission Alternative would in general utilize the same travel routes as the Tenth and Market Alternative, noise impacts under this alternative on the roadways analyzed in Table 4.5-2 would be the same as the Tenth and Market Alternative. Under this alternative, however, an additional roadway was analyzed because of its proximity to the Tenth and Market Alternative site. As indicated, traffic noise level increases associated with the project on Mission would be approximately 1.1 dBA Ldn, and 0.1 dBA during the peak hour. In accordance with EPA criteria, this increase is considered a "slight" impact and would not be perceptible.

3. Cumulative

Cumulative impacts for the Seventh and Mission Alternative are the same as for the Tenth and Market Alternative.

4. Mitigation Measures

Because noise impacts would be less than significant, mitigation measures are not required. However, the same measures recommended for the Tenth and Market alternative are also

recommended for the Seventh and Mission Alternative. In addition, the following mitigation measures would further reduce impacts for the Seventh and Mission Alternative.

4.5(B)-1 Reduction of pile driving noise can be accomplished in a number of ways. Examples of vibration reduction techniques which could be incorporated into the project include: the use of a smaller pile driver (which would require smaller, but more numerous piles to be used in construction and would extend the construction period) and caissons (sound-dampening structures to enclose pile-driving operations). Pre-drilling holes prior to pile driving would also lessen vibrations.

C. Purchase Alternative

1. Short-Term

Implementation of the Purchase Alternative would not result in any short-term noise impacts.

2. Long-Term

Implementation of the Purchase Alternative could either result in GSA acquiring a vacant structure or one that currently houses people. If a structure is acquired that is vacant, noise level increases in proximity to this building would be similar to the Tenth and Market Alternative (i.e., less than 1 dBA). Since noise levels within the CBD exceed City compatibility objectives, this increase would add to existing noise conditions but would not be noticeable. If, however, the GSA purchases a building which is currently occupied and simply replaces these individuals, noise levels in proximity to the structure would not increase.

3. Cumulative

Existing noise levels within the CBD are relatively high, typical urban levels. The purchase of a building by GSA to house federal agencies would not result in noise level increases if the building is currently occupied. If a new structure is purchased, noise level increase associated with new traffic on nearby roadways would add to the already existing problem but would not be noticeable.

4. Mitigation Measures

No mitigation measures are required beyond ensuring that the facility would meet applicable General Service Administration noise standards.

D. Lease Alternative

1. Short-Term

Implementation of the Lease Alternative would not result in any short-term noise impacts.

2. Long-Term

Implementation of the Lease Alternative could either result in GSA leasing a vacant structure or structures or one that currently houses people. If a structure is leased that is vacant, noise level increases in proximity to this building would be similar to the Tenth and Market Alternative (i.e., less than 1 dBA). Since noise levels within the CBD are relatively high, this increase would add to existing noise conditions but would not be noticeable. If, however, the GSA leases a building which currently houses people and relocates these individuals, noise level increases in proximity to the structure would not increase.

3. Cumulative

Existing noise levels within the CBD are relatively high. If GSA leases a building in the CBD, noise levels would not increase if the building is currently being leased by other tenants. If a new structure is leased, noise level increase associated with new traffic on nearby roadways would add to the already existing problem but would not be noticeable.

4. Mitigation Measures

No mitigation measures are required beyond ensuring that the facility would meet applicable General Services Administration noise standards.

E. No Action Alternative

1. Short-Term

Implementation of the No Action Alternative would not result in any short-term noise impacts.

2. Long-Term

Implementation of the No Action Alternative would not result in any long-term noise impacts.

3. Cumulative

Existing noise levels in the CBD are relatively high. However, implementation of the No Action Alternative would not add to cumulative noise impacts.

4. Mitigation Measures

No mitigation measures are required.

4.6 NATURAL OR DEPLETABLE RESOURCES

4.6.1 Impact Assessment Methodology and Significance Thresholds

For the purposes of this analysis, a significant impact would occur if the proposed project interferes with the extraction of, or access to, natural or depletable resources. Development utilizing natural resources wastefully, or at a rate which leads to depletion or supply shortages would be deemed a significant impact. Due to the variation of supply and demand for various resources over time, quantified thresholds for resource use are not available. Typically, this analysis is not quantified unless the project is of the type or in a location that would require an extraordinary consumption of natural or depletable resources.

4.6.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.6(A)-1 Resource supplies are sufficient to cover construction demands. Therefore, impacts to natural resources are considered less than significant. [LS]

Project construction building materials fabricated from raw materials would be utilized including local supplies of materials such as sand and gravel as well as supplies from outside the area which are imported for the project. In addition, the removal of existing paved parking surfaces, worker transportation, site development, and building construction would require the use of petroleum resources. Local and regional supplies of these resources are assumed to be sufficient to cover both project and nonproject demands, and fuel reduction measures would be observed (standard EPA requirements for construction equipment). Therefore, short-term impacts are considered less than significant.

2. Long-Term

Impact 4.6(A)-2 The long-term rate at which natural resources (primarily in the form of fossil fuel for vehicle operation and onsite energy use) would be consumed is not unusual for a development such as the proposed project. Overall, the project is anticipated to result in less than significant impacts. [LS]

Onsite electrical and natural gas associated with project implementation are discussed in Section 4.11. The project would have no extraordinary effect on the long-term consumption of natural or depletable resources. Because the supplies of these resources are readily available and energy conservation measures would be implemented (i.e., energy efficient fixtures), no significant

impacts to natural resources are anticipated. The Tenth and Market Alternative site is not located in proximity to any mineral or aggregate mining facilities, therefore, construction of the proposed federal building would not hamper or preclude access to any natural resources.

The projected growth in the size of the federal work force in the San Francisco area is not contingent upon completion of the proposed Federal Office Building. If the proposed building is not constructed, the needed space may be leased, purchased, or constructed under a separate project or projects. Thus, the long-term rate at which natural/depletable resources are consumed would not be substantially altered by the project. Because the project would consolidate federal work places that are currently dispersed over a wide area in a single location, a decrease in consumption rates may occur due to shorter commuting distances between sites and more efficient per unit energy use and cost due to modern building systems.

The proposed project also would consume energy resources through the generation of additional vehicles. The federal government will promote the use of alternative modes of transportation to conserve petroleum, reduce traffic congestion, and improve air quality. Executive Order (EO) 12191 states that " executive agencies shall promote the use of ridesharing (carpools, vanpools, privately leased buses, public transportation, and other multi-occupancy modes of travel) by personnel working at Federal facilities.

3. Cumulative

Cumulative projects would increase the rate of consumption of some natural resources, both in the short- and the long-term. Cumulative impacts analyzed in environmental reports for area planning documents (e.g., the Mission Bay EIR) were determined to not be significant. Based on the findings of these environmental documents, the growth contemplated by ABAG projections coupled with the proposed project is not expected to interfere with the extraction of or access to natural or depletable resources or would use such resources wastefully or in a manner that would lead to supply shortages.

4. Mitigation Measures

No project-specific mitigation measures are required because Impacts 4.6(A)-1 and 4.6(A)-2 are less than significant.

B. Seventh and Mission Alternative

The same discussion of natural and depletable resources appearing under the Tenth and Market Alternative applies to the Seventh and Mission Alternative.

C. Purchase Alternative

The implementation of the Purchase Alternative would not result in any new impacts to natural or depletable resources because a structure would already be constructed on the site. Due to the urbanized character of San Francisco, mining activities are not likely. Energy consumption impacts would be similar to those discussed under the Tenth and Market Alternative. Therefore, no significant short-term, long-term or cumulative impacts to natural or depletable resources are associated with the Purchase Alternative.

D. Lease Alternative

Similar to the Purchase Alternative, the Lease Alternative would not result in any new impacts to natural or depletable resources because a structure or structures would already exist. Due to the urbanized character of San Francisco, mining activities are not likely. Energy consumption impacts would be similar to those discussed under the Tenth and Market Alternative. Therefore, no significant short-term, long-term or cumulative impacts are associated with the Lease Alternative.

E. No Action Alternative

Implementation of the No Action Alternative would mean the continued use of the existing federally owned buildings and leased space. This alternative would not cause a change in the use of resources. Therefore, there would be no short-term, long-term or cumulative impacts to natural or depletable resources. No project-specific or cumulative measures are required for this alternative.

4.7 LAND USE CONSISTENCY

4.7.1 Introduction and Purpose

The purpose of this section is to discuss the consistency of the proposed project alternatives with applicable plans, policies and regulations governing land use in the vicinity of each alternative site. A land use inconsistency may result in an environmental impact. The conflict itself is not such an impact. The environmental impacts that land use conflicts may create are discussed in the appropriate impact chapters (Noise, Air Quality, Transportation and Circulation, and Aesthetic/Visual Resources). In this chapter, inconsistencies are identified, and actions that can be taken to rectify those inconsistencies are described.

The plans and zoning regulations which apply to each alternative site are discussed in Section 3.7. Many plans and regulations relevant to specific environmental issues are discussed in greater detail in other sections of this EIS/EIR.

The federal government is generally exempt from local land use controls as provided by the United States Constitution Supremacy Clause (Article VI, Section 2). However, the National Environmental Policy Act requires consideration of local comments on significant actions.

The Public Buildings Amendments of 1988 provide specific direction to the federal government when planning new buildings. Section 21 (a) of the Amendments requires all buildings to be built in accordance with "nationally recognized codes", unless national security dictates otherwise. Direction is also given with respect to land use laws:

> *(b) Zoning Laws.--Each building constructed or altered by the General Services Administration or any other Federal agency shall be constructed or altered only after consideration of all requirements (other than procedural requirements) of --*
>
> *(1) zoning laws, and*
>
> *(2) laws relating to landscaping, open space, minimum distance of a building from the property line, maximum height of a building, historic preservation, and aesthetic qualities of a building, and other similar laws, of a State or a political subdivision of a State which would apply to the building if it were not a building constructed or altered by a Federal agency.*

The Amendments also provide a procedure for consultation, recommendations and inspection from State and local government officials.

While these Amendments give clear direction to acknowledge local regulations, the exemption is retained with the following clauses:

> *(e) Effect of Noncompliance. -- No action may be brought against the United States and no fine or penalty may be imposed against the United States for failure to meet the requirements of [this section] or for failure to carry out any recommendation [made by a State or local official].*
>
> *(f) Limitation on Liability. -- The United States and its contractors shall not be required to pay any amount for any action taken by a State or a political subdivision of a State to carry out this section (including reviewing plans, carrying out on-site inspections, issuing building permits, and making recommendations).*

4.7.2 Consistency Analysis

A. Tenth and Market Alternative

Consistency

Finding 4.7(A)-1 The Tenth and Market Alternative would generally be consistent with the requirements of the Planning Code and with the goals and policies contained in applicable City of San Francisco planning documents. The proposed building size would, however, exceed the allowable Floor Area Ratio without Transfer of Development Rights.

Planning Code

The Tenth and Market Alternative site is zoned Downtown General Commercial (C-3-G). Principal permitted uses allowed by C-3-G are office, hotel, retail, residential, wholesale, entertainment, institutional and some light manufacturing. The proposed Federal Building would be generally consistent with the C-3-G district.

> *C-3-G District: Downtown General Commercial. This district covers the western portions of downtown and is composed of a variety of uses: Retail, offices, hotels, entertainment, clubs and institutions, and high-density residential. Many of these uses have a citywide or regional function, although the intensity of development is lower here than in the downtown core area. As in the case of other downtown districts, no off-street parking is required for individual commercial buildings, but in portions of this district automobile parking is a major land use, serving this district and the adjacent office and retail core areas. In the vicinity of Market Street, the configuration of this district reflects easy accessibility by rapid transit.*

The floor to area ratio (FAR) for C-3-G is 6:1. With transferred development rights (TDR), it may not exceed 1½ times the basic floor area limit for the district--9:1 (Section 123c). The Tenth and Market alternative site is approximately 95,000 square feet. A 6:1 ratio would allow a building with 570,000 gross square feet (as defined by section 102.9 of the Planning Code). The Congressional authorization for this project is a building containing 475,000 occupiable square feet. At a 75% efficiency ratio, this would entail a building containing approximately 633,000 gross square feet, as defined by GSA. (See Section 2.0 of this EIS/EIR for a complete discussion of the different measurements.) Without the transfer of development rights, the building proposed for the site would exceed the maximum FAR by about 63,000 square feet, less than 1:1.

Section 270 of the Planning Code defines the maximum height and bulk of buildings. The Tenth and Market alternative site would allow a building that has its maximum height nearest Market Street, stepping down as it approached Mission Street. The maximum height at Market to the mid point of the parcel is 320 feet. The third quarter of the building could have a maximum height of 200 feet. For the rear quarter, fronting Mission Street, site zoning would allow a building height of 150 feet.

Section 148 of the Planning Code restricts building size and design if wind levels exceed ordinance thresholds. Section 3.14 Wind of this EIS/EIR contains a complete analysis of wind tunnel testing for the site. Consistency with City requirements are discussed in the section.

Sections 146, 147 and 295 of the Planning Code contain restrictions on building heights and bulk if they would create shadows in certain public areas. Section 3.16 Shadow contains a discussion of these ordinances and the shadow analysis conducted for this site.

The provision of off-street parking is not required in the C-3-G district, see discussion in Section 3.7 of this document (Sections 151 and 161(c) Planning Code). See also Section 4.12 Transportation for a discussion of parking impacts and requirements.

B. Seventh and Mission Alternative

Consistency

Finding 4.7(B)-1 The Seventh and Mission alternative would be generally consistent with applicable Planning Code requirements.

Planning Code

The Seventh and Mission alternative site is also zoned Downtown General Commercial (C-3-G). The proposed Federal Building would be consistent with the C-3-G designation.

The FAR ratio for C-3-G is 6:1. The Seventh and Mission alternative site is approximately 164,000 square feet. This would allow a building with 987,000 gross square feet (as defined by section 102.9 of the Planning Code). The Congressional authorization for this project is a building containing 475,000 occupiable square feet. At a 75% efficiency ratio, this would entail a building containing approximately 633,000 gross square feet, as defined by GSA. (See Section 2.0 of this EIS/EIR for a complete discussion of the different floor measurements.) Therefore, a structure built to the level of Congressional authorization would be in compliance with City FAR restrictions.

Other zoning requirements for the C-3-G district were discussed under the Tenth and Market alternative. The same requirements would apply to this site. As proposed, the project would generally be consistent with those requirements.

C. Purchase Alternative

Consistency

Finding 4.7(C)-1 The purchase of an existing building would generally be consistent with applicable Planning Code requirements.

The purchase alternative assumes that an existing building would be purchased and occupied by federal executive agencies. It would be sufficient in size to accomplish the goal of consolidating several federal agencies. Federal regulations would require that the building be brought into compliance with the Uniform Building Code.

D. Lease Alternative

Consistency

Finding 4.7(D)-1 The lease of existing office space would be generally consistent with applicable Planning Code requirements.

As with the purchase of an existing building, the lease of existing office space would also be consistent with most City planning documents and Planning Code requirements. From a City policy standpoint, the one notable exception is with regard to the Civic Center Plan's Policy 4 under Objective 2 which states "Encourage administrative-oriented government functions (executive, legislative, and judicial) to locate in new consolidated facilities rather than being dispersed throughout the adjacent area in leased or rented quarters." GSA has been unable to locate large office blocks in the rental market that would accomplish this goal in the Civic Center rental market. Some of the agencies that would be accommodated by the project would have to be located in multiple locations, reducing their efficiency and increasing their cost. This could be rectified by finding, when available upon the market, large block office lease space.

E. No Action Alternative

The no action alternative would not result in any short- or long-term inconsistencies with Planning Code requirements, local land use plans, or policies with the notable exception discussed in the lease alternative regarding the Civic Center Plan's Policy 4 under Objective 2, which encourages consolidation of governmental office space into new facilities rather than dispersed, leased space.

4.8 SOCIOECONOMICS AND THE REAL ESTATE MARKET

This section analyzes the degree to which any of the alternatives would affect population and housing in the Bay Area. It also assesses impacts to local economic activity and the commercial real estate market. Impacts in this section are assessed on a regional and local scale rather than short-term and long-term time frames.

4.8.1 Impact Assessment Methodology and Significance Thresholds

The economic and employment impacts of any project can be fully assessed only through a complete econometric study. However, the size of the proposed project in relation to the size of the San Francisco Bay Area economy did not warrant an in-depth economic analysis. Therefore, this section provides a more qualitative analysis of the general social and economic effects of implementing the proposed action and each of the alternatives. The thresholds discussed below provide the measures against which the significance of the effects associated with either alternative will be measured.

Population and Housing

Population impacts are considered significant if project implementation would displace a substantial number of current residents or induce substantial population growth, either directly or indirectly, that would exceed Association of Bay Area Governments (ABAG) projections.

Impacts to the local housing market are considered significant if the proposed project would displace existing housing or create substantial demand for housing that could not be accommodated by current and projected housing levels.

Regional Economy/Employment

Impacts to the regional economy are considered significant if project implementation would result in a substantial net job loss in San Francisco or the Bay Area or if it would cause a long-term increase in the local office space vacancy rate or if project implementation would be substantially inconsistent with City of San Francisco policies relating to economic development.

Local Scale Socioeconomic Impacts

Local scale impacts are considered significant if the proposed project would substantially and adversely alter local business patterns.

4.8.2 Impact Analysis

A. Tenth and Market Alternative

1. Population and Housing

Impact 4.8(A)-1 Implementation of the Tenth and Market Alternative would not result in the displacement of any existing housing or directly create demand for new housing. Population and housing impacts are therefore considered less than significant. [LS]

The Tenth and Market Alternative would not directly affect any existing residents or housing. In addition, because it would accommodate the relocation of federal employees already living in the City and the region rather than bringing new federal employees to the region, the Tenth and Market Alternative would not be expected to directly generate additional population or create a demand for new housing. Few, if any, employees at the affected federal agencies would be expected to relocate in order to work at the proposed office building as all are already working in San Francisco. Thus, no direct impact to local population or the housing market in the Bay Area would occur.

Although the project consolidates existing jobs rather than directly creating new ones, the relocation of 2,700 employees from leased office space throughout the City to a new federal office building would make the vacated office space available for new tenants which, at full occupancy, could result in an indirect increase of up to 2,700 employees in San Francisco. These new tenants could create a demand for additional city services and housing. However, an increase in employment caused by the project would not necessarily represent an equivalent population influx into San Francisco. While it is expected that some of the new employees generated by the project would move to San Francisco, many would be held by individuals who already live in the City and previously worked at different jobs or did not work, or by commuters who live and would continue to live outside the City. Any population increase that may occur as a result of an influx would be well within ABAG population projections for both the City and the region. Indirect population and housing impacts would therefore be less than significant.

2. Regional

Impact 4.8(A)-2 Implementation of the Tenth and Market Alternative would provide employment opportunities during construction and would preserve about 2,700 federal jobs within the City of San Francisco in the long term. This is considered a beneficial economic impact for the City. [B]

Construction of the proposed federal office building would provide local employment opportunities in the construction industry. As discussed in Section 3.8, employment in the City's construction industry has shown a general decline since 1982 when there were about 25,000 people employed in the industry. As of 1992, only about 12,000 construction jobs remained. In the period from 1990 to 1992 alone, about 4,000 construction jobs were lost, a 25 percent decrease.

Based upon the projected construction costs for the proposed federal office building, project implementation would create short-term jobs associated with construction activity. Therefore, the proposed action would provide employment opportunities in an industry that has been in a general state of decline in the City for over 10 years. This is considered a beneficial impact.

The relocation of businesses from central cities to suburban office and industrial parks has been a continuing trend throughout the nation over the past 30 or so years. This trend has resulted in a general dispersion of jobs (and associated decrease in the importance of central cities as job providers) in metropolitan areas throughout the nation, including the San Francisco Bay Area. As discussed in Section 3.8 the City of San Francisco's share of total Bay Area employment fell from 28.6 percent to 18.5 percent between 1970 and 1992, although the City remains a hub of economic activity for the region.

A multiplier effect often occurs as companies and associated jobs leave central cities and the customer bases of companies providing support services to an individual company are reduced. Thus, the widespread relocation of employment-generating businesses can have a negative ripple effect on the local economy in downtown areas.

ABAG estimates that every new office job within the City of San Francisco actually creates a total of 1.3 jobs, including the office jobs themselves, as well as those providing services that support office functions (ABAG, 1991). Based upon this estimate, the retention of the 2,700 federal office jobs in the downtown San Francisco area would actually preserve over 3,500 jobs within the City. In addition, the proposed action would increase the City's overall employment capacity by increasing the overall amount of office space in the City. The new office jobs created in response to the office vacancies resulting from the proposed action are filled would have a similar multiplier effect on the City's economy. Therefore, although very localized impacts to some retail businesses may occur as a result of the movement of employees within the downtown area, the proposed federal office building would have generally beneficial impacts upon the City of San Francisco economy.

Impact 4.8(A)-3 The Tenth and Market Alternative would not substantially affect office space vacancy rates in the downtown San Francisco area. Therefore, impacts to the local commercial real estate market would be less than significant. [LS]

Implementation of the Tenth and Market Alternative would enable the federal government to reduce its inventory of leased office space in San Francisco by about 464,000 square feet. This amounts to less than 1 percent of the 63.4 million square feet of office space in the downtown San Francisco area. Because vacancy rates in downtown San Francisco have remained relatively low over the past several years (refer to Table 3.8-4), the vacancies created by construction of the federal office building would unlikely be long-term. This is partially due to the effects of Proposition M which restricts office development to 475,000 sq. ft. per year. In addition, the market may be enhanced due to larger blocks of contiguous space becoming available through cancellation of federal lease actions. Therefore, impacts to the local real estate market are considered less than significant.

Impact 4.8(A)-4 Implementation of the Tenth and Market Alternative would help implement City of San Francisco policies related to the retention of business and government functions. This is considered a beneficial impact. [B]

As described in Section 3.8, the City of San Francisco's Commerce and Industry Element includes policies to retain existing commercial development and promote the City (particularly the Civic Center area) as a location for government functions. Development of the proposed federal office building would retain existing government jobs in the City for the long term. At the same time, it would further the City's goal of attracting local, state and federal government functions in the Civic Center area of the City. The Tenth and Market Alternative would therefore help implement both of these policy objectives.

3. Local Scale

Impact 4.8(A)-5 The project would displace several commercial and retail businesses. However, all businesses displaced would receive relocation assistance in accordance with the Uniform Relocation Act. Impacts would therefore be less than significant. [LS]

Businesses currently existing on the Tenth and Market Alternative site would be demolished as part of project implementation. Relocation assistance would be provided for all displaced businesses in accordance with the Uniform Relocation Act.

Impact 4.8(A)-6 The proposed project would be consistent with EO 12898 resulting in less than significant impacts. [LS]

Federal agency responsibilities under Executive Order (EO) 12898 include conducting its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

This project would provide some short- and long-term employment opportunities for low to moderate income individuals, and increased business opportunities for the area surrounding the project site. Project implementation would not create any significant new environmental hazards. Overall, the development of the proposed project would have beneficial impacts on the surrounding neighborhoods within the downtown area. Construction of this project would not disproportionately affect minority or low-income individuals and is consistent with provisions of EO 12898.

Impact 4.8(A)-7 Although the Tenth and Market Alternative may adversely affect some local businesses, local scale socioeconomic conditions would primarily be enhanced by the introduction of an increased customer base for local businesses. This is considered a primarily beneficial impact. [B]

Many factors influence the socioeconomic makeup of any area, particularly in a city like San Francisco, which contains a mix of retail, office, industrial, and residential uses throughout much of the City. Nevertheless, the introduction of 2,700 new office workers to the area would likely create additional demand for a variety of support services in the immediate area. These may include such facilities as restaurants, employee-serving retail shops (dry cleaners, stationery and book stores), and photocopying/printing services.

Because the area to the north of the site already contains several office buildings, a number of retail facilities that cater largely to office workers exist along Market Street (including restaurants, print shops, and various specialty shops). These facilities would be expected to absorb much of the demand for services generated by the proposed federal building, thus enjoying increased business and revenues. These would be beneficial impacts to such businesses.

If existing businesses are not able to absorb all of the increased local demand for services, additional supporting businesses may be attracted to the area. This would tend to increase area land values to some degree. Increased rents associated with higher land values may have the effect of forcing out existing lower end retail uses. Because the area already contains numerous office-serving retail uses, employees at the proposed federal building would likely use these

services thereby curbing economic effects on the lower-end uses to the south. Thus, no significant alteration of socioeconomic conditions would be anticipated.

4. Cumulative

The Tenth and Market Alternative would directly retain about 2,700 jobs in the City of San Francisco and indirectly retain about 800 more jobs. By preserving jobs in the City, the Tenth and Market Alternative would have primarily beneficial local socioeconomic impacts. Thus, it would not contribute to any cumulatively significant adverse socioeconomic effects.

5. Mitigation Measures

Because socioeconomic impacts are less than significant, no mitigation measures are required.

B. Seventh and Mission Alternative

1. Population and Housing, Regional, and Cumulative

Impacts 4.8(A)-1, 4.8(A)-2, 4.8(A)-3, 4.8(A)-4, and 4.8(A)-6 described above for the Tenth and Market Alternative would also apply to development of the proposed federal office building at the Seventh and Mission Alternative site. Localized impacts for the Seventh and Mission Alternative site are described below.

2. Local Scale

Impact 4.8(B)-1 Implementation of the federal building at the Seventh and Mission Alternative site would be expected to alter the socioeconomic characteristics of the immediate neighborhood. Although some area businesses may be adversely affected by such changes, the anticipated impact to the area would generally be beneficial. [B]

As with the Tenth and Market Alternative, development of the federal office building at the Seventh and Mission Alternative site would introduce about 2,700 new office employees to the area. The immediate vicinity of the Seventh and Mission Alternative site is dominated by low-end retail establishments, residential hotels, and vacant office space.

Because relatively few of the existing retail establishments in the immediate area cater primarily to office workers, the influx of new office employees may create demand for new types of services (higher end restaurants, copy shops, and other specialty retail). This would generally have beneficial impacts upon the local scale economy by increasing money flow through the community.

Although employee-serving businesses would not directly compete with existing retail establishments in the area, the increased demand for higher end services may serve to increase land values. This could have the effect of forcing some area establishments out of business. However, the area currently has a high vacancy rate (particularly along Mission, Sixth, Seventh, and Eighth Streets). Therefore, many new establishments may occupy currently vacant buildings, thus minimizing impacts to existing businesses.

Increased demand for higher end services may also have the indirect effect of putting pressure on existing residential hotels in the area by providing an incentive to convert to more profitable uses. However, the San Francisco Single Room Occupancy (SRO) Ordinance and Chapter 41 of the San Francisco Administrative Code include numerous provisions to provide incentives for creation of new SRO units and to protect existing SRO units. Therefore, this would not constitute a significant impact.

3. Mitigation Measures

No mitigation measures are required.

C. Purchase Alternative

1. Population and Housing

Impact 4.8(C)-1 The Purchase Alternative would have no discernable effect on Bay Area population or housing. This is considered a less than significant impact. [LS]

As it would entail the purchase of an existing office building in the downtown San Francisco area, this alternative would not create any additional office space in the City. Thus, it would not accommodate any new employees in the City or induce any growth in regional population or housing.

2. Regional

Impact 4.8(C)-2 Implementation of the purchase Alternative would preserve about 2,700 federal jobs within the City of San Francisco in the long term. This would be a beneficial economic impact. [B]

The Purchase Alternative would ensure that the 2,700 affected federal jobs remain in the downtown San Francisco area for the long term. This would prevent the loss of jobs in the City that would occur if the affected federal agencies elected to move to a location outside the City. Although very localized adverse impacts to some retail businesses may occur as a result of the relocation of employees within the downtown area, implementation of the purchase Alternative

would have generally beneficial impacts upon the City's economy. The real impact of purchasing a building is reducing the amount of leasable office space stock.

Impact 4.8(C)-3 The Purchase Alternative would probably not affect office space vacancy rates in downtown San Francisco. Therefore, impacts to the local commercial real estate market would be less than significant. [LS]

The Purchase Alternative would displace the businesses currently occupying the building that is purchased. Some of these businesses may choose to relocate outside San Francisco, particularly in light of the recent trend toward decentralization of business activity in the Bay Area (see Section 3.8). However, this alternative would ensure the long-term occupancy of about 675,000 GSF of commercial office space in the City. Therefore, no significant impact to the San Francisco real estate market would be anticipated.

3. Local Scale

Impact 4.8(C)-4 The Purchase Alternative would help implement City of San Francisco policies related to the retention of business and attraction of government functions. This is considered a generally beneficial impact. [B]

Purchase of an existing building for the development of a new federal office building would retain existing government jobs in the City for the long term. It would also further the goal of attracting government functions to the City. The Purchase Alternative would therefore help implement City of San Francisco policy objectives relating to business retention. However, existing businesses displaced by the purchase of the building may choose to relocate outside the City.

4. Cumulative

Impact 4.8(A)-7 Although the Purchase Alternative may adversely affect some local businesses, local scale socioeconomic conditions would primarily be enhanced by the introduction of an increased customer base for local businesses. This is considered a primarily beneficial impact. [B]

5. Mitigation Measures

No mitigation measures are required.

D. Lease Alternative

Socioeconomic impacts associated with the lease Alternative would be similar to those of the Purchase Alternative (see Impacts 4.8(C)-1, 4.8(C)-2, 4.8(C)-3, and 4.8(C)-4). Overall beneficial impacts to the City may, however, be somewhat less than described for the Purchase

Alternative because leasing would be less likely to ensure the long-term retention of government functions in San Francisco.

E. No Action Alternative

The No Action Alternative would have no impact, adverse or beneficial, on socioeconomic conditions in the San Francisco Bay Area.

4.9 AESTHETIC/VISUAL RESOURCES

4.9.1 Impact Assessment Methodology and Significance Thresholds

The analysis of aesthetic impacts is based upon site reconnaissance, photo documentation of each site and its surrounding area, and a literature survey of documentation in the public record regarding urban design issues in the affected area of San Francisco. The discussion of urban design is drawn from The *San Francisco Master Plan*, in particular the Urban Design Element and the Downtown Area Plan (Appendix I includes a summary of the City's objectives and policies on aesthetics and visual resources). If definitive features of the preferred project or alternative were in violation of a city ordinance derived from an objective or policy of the Master Plan, a significant impact would be identified.

4.9.2 Impact Analysis

A. Tenth and Market Alternative

1. Short Term

Impact 4.9(A)-1 Short-term construction activities would be visible from surrounding areas. This impact is considered to be less than significant. [LS]

Construction of the proposed project would occur up to an estimated 3-year period. Because the site is clearly visible from important public rights-of-way, nearby office and residential structures, and formal and informal open space areas, aesthetic impacts from construction related activities (i.e., building demolition, debris removal, soil excavation and preparation, building construction, etc.) would occur. Because these are temporary, and because GSA will adhere to City building code requirements regulating site screening and buffering, these impacts will be less than significant.

2. Long Term

Impact 4.9(A)-2 No final site plans or architectural designs have been developed for the project. However, general project design components have been established, indicating that the proposed building would be approximately 315 feet in height and cover approximately 95,000 square feet of land area. The building, as discussed earlier, would generally conform to current height and bulk restrictions. As a result, there would be no significant impacts. [LS]

The Tenth and Market Alternative is located in the vicinity of the Civic Center area, a district of major urban design distinction. The structure would generally conform to height and bulk restrictions. It is anticipated that the tower of the building will be moved farther back from

Market Street in order to reduce hazardous winds at the pedestrian level (see Sections 4.7 Land Use and 4.14 wind). A building of 315 feet would clearly be visible from most public places within the Civic Center area.

The Tenth and Market Alternative is a large-scale structure. Structures of this size and magnitude have a potential to disrupt pedestrian life and human-scaled urban form. This is especially the case at the Tenth and Market site, which includes a strong commercial activity on Market Street, and an easily overlooked neighborhood on Mission Street. The project, however, will comply with design policies in the City Planning Code, which would reduce visual impacts to a less than significant level. In fact, the proposed building could provide a more cohesive transition from the district center to the neighborhood for the one block transition between these two major arterials with careful street design. In addition, because the building would be surrounded on three sides by structures of comparable size, no existing public views would be obstructed.

3. Cumulative

Impact 4.9(A)-3 The Tenth and Market Alternative does not represent a major change in the established development pattern of this district of the City, as there are existing developments in the immediate area of similar size and scale. Therefore, the cumulative effect on the aesthetic and visual resource environment in the urban core is less than significant. [LS]

The Tenth and Market Alternative is indicative of the ongoing interest in building large structures within the City of San Francisco. Such development activity is fully anticipated in the City's Master Plan, and is generally consistent with the land use regulatory framework established in the City.

4. Mitigation Measures

No mitigation measures are necessary.

B. Seventh and Mission Alternative

The Seventh and Mission alternative proposes a structure, but with a different street frontage condition and a different urban context.

1. Short-Term

Impact 4.9(B)-1 Short-term construction activities would be visible from surrounding areas. This impact is considered to be less than significant. [LS]

Construction of the Seventh and Mission alternative would occur up to an estimated three year period. Because the site is clearly visible from important public rights-of-way, nearby hotel, office and residential structures, and formal and informal open space areas, aesthetic impacts from construction related activities (i.e. building demolition, debris removal, soil excavation and preparation, building construction, etc.,) would occur. Since these impacts are temporary, and since the applicant will adhere to City building code requirements regulating site screening and buffering, these impacts will be less than significant.

2. Long-Term

Impact 4.9(B)-2 Because no final site plans or architectural designs have been developed for the project, the precise viewshed impact of project implementation cannot be determined. However, general project design components have been established, indicating that the proposed building could be about 240 feet in height and cover approximately 70,000 square feet of site area. The structure is intended to generally conform to the City's height and bulk requirements, will not substantially block existing scenic views from public areas, and thus would not have a significant impact. [LS]

The Seventh and Mission alternative is located at the periphery of the larger Civic Center area, a district of major urban design distinction. A building of 120 to 240 feet, as shown from the shadow study, would be visible from some public places within the Civic Center area. As proposed, the building would generally conform to city height and bulk regulations, and thus would not have a significant impact. While the building could affect some views of the plaza, it would not have a substantial impact on scenic views available to the public.

Furthermore, the subarea is an area of cohesive, early 20th-century masonry structures. These structures, along Market Street between One Trinity Center and Seventh Street, and along the east side of Seventh Street itself, are not part of the alternative site and would remain.

The Seventh and Mission alternative would involve the construction of a building that would be more than double the scale of anything in its block. Structures that involve this degree of scale change have a potential to disrupt pedestrian life and human-scaled urban form. This is especially the case at the Seventh and Mission alternative site, which includes street frontages which retain well established structures with an identifiable relationship with the street, consistent with design principles practiced at the time of their construction (1905 through 1920). The project, however, will comply with design policies in the City Planning Code, which would reduce visual impacts to a less than significant level. In fact, the proposed building could provide a more cohesive transition from the district center to the neighborhood for the one block transition between two major arterials. This vacant site includes a former bus terminal and large areas of surface parking. The applicant has the opportunity to restore the urban streetwall and pedestrian streetscape at this site through careful design of the building and surroundings.

3. Cumulative

Impact 4.9(B)-3 **The Seventh and Mission Alternative does not represent a major change in the established development pattern of this district of the City, as there are existing developments in the area of similar size and scale. Therefore, the cumulative effect on the aesthetic and visual resource environment is less than significant. [LS]**

As with the Tenth and Market Alternative, development of the Seventh and Mission Alternative would be generally consistent with the land use regulatory framework of the City and is fully anticipated in the City's Master Plan.

4. Mitigation Measures

No mitigation measures are required.

C. Purchase Alternative

The purchase of an existing structure in lieu of constructing a new building would not involve any new impacts to aesthetics or visual resources.

D. Lease Alternative

The lease of existing building space in lieu of constructing a new building would not involve any new impacts to aesthetics or visual resources.

E. No Action Alternative

Under the no action alternative, no new federal building would be constructed, leased, or purchased. The GSA would continue to operate from a variety of existing facilities and sites around the City. Therefore, there would be no aesthetic/visual resource impacts associated with the no action alternative.

4.10 HISTORIC RESOURCES

An historic resources evaluation was prepared by San Buenaventura Research Associates (SBRA) of Santa Paula, California, and was based upon field investigations conducted by the consultants in March 1994; and historical background research conducted in March and April 1994. A selected bibliography of sources and detailed list of properties evaluated is contained in Appendix E.

4.10.1 Significance Thresholds and Impact Assessment Methodology

The project would have a significant impact on historic resources if it would cause an adverse effect on an historic resource. For purposes of this EIS/EIR, an historic resource is a resource listed:

- On or eligible for listing on the National Register of Historic Places (NRHP);
- As a state landmark, or as a local landmark under Article 10 of the San Francisco Planning Code; or
- As a Category I or II significant building under Article 11 of the Planning Code (Downtown Plan Rating).

In determining whether a property is eligible for listing on the NRHP, this EIS/EIR uses the eligibility criteria set forth in federal regulations. The criteria are as follows:

> "*National Register criteria for evaluation* [36 CFR 60.4] The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that have yielded, or may be likely to yield, information important in prehistory or history."

The EIS/EIR also uses federal criteria to determine whether an impact would have an "adverse effect" on an historic resource. Federal regulations define "effect" and "adverse effect" by the following criteria:

"a. *Criterion of Effect* [36 CFR 800.9 (a)]. An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register. For the purposes of determining effect, alteration to features of a property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.

b. *Criteria of Adverse Effect* [36 CFR 800.9 (b)]. An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse [significant] effects on historic properties include, but are not limited to:

(1) Physical destruction, damage, or alteration of all or part of the property;

(2) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

(3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

(4) Neglect of a property resulting in its deterioration or destruction; and

(5) Transfer, lease, or sale of the property."

4.10.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

The project will cause no short term impacts to historic properties.

2. Long-Term

Impact 4.10(A)-1 Because the project will be developed in accordance with San Francisco regulations and policies governing the integration of new development into historic contexts, the undertaking will not result in an adverse effect on properties designated as a State or City Landmark, rated a Category I or II building under the Downtown Plan, or listed on or eligible for the NRHP. This impact is considered less than significant. [LS]

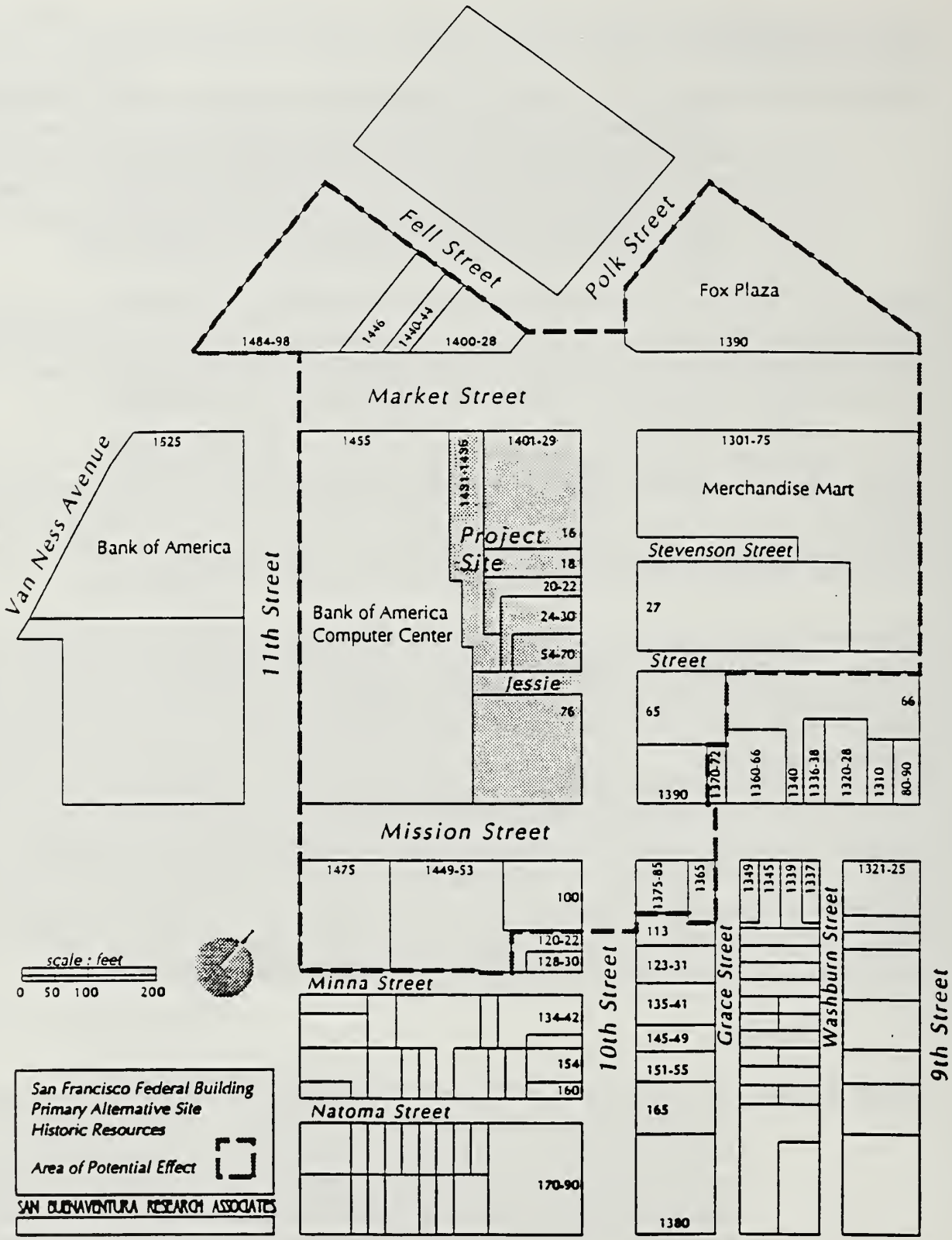
SBRA has reviewed all structures within the APE. There are no National Register properties in the APE. SBRA is of the opinion that two buildings appear to be eligible for NRHP listing. These are the Merchandise Mart located at 1301 Market Street (which has a Downtown Rating of I) and Gantner and Mattern Co. Mill at 1449-53 Mission Street (see Figure 4.10-1).

Because neither of these buildings are on the project site itself, neither would suffer a direct physical impact. Therefore, in applying the criteria of adverse effect, the only criteria that has the potential to result in an adverse effect to these properties is the "introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting." 36 CFR 800.9(b)(3). The other criteria would not occur as a result of the project.

Absent any design constraints, the construction of a large office building has the potential to introduce visual, audible, or atmospheric and other character defining streetscape elements (such as height, scale, materials, setbacks, bulk) which could be incompatible with historic properties within the APE, and is, therefore, capable of reducing the integrity of a property's setting (the physical environment of a historic property). However, it is the intent of GSA to generally conform the proposed building to locally adopted zoning and development objectives, policies and regulations, including those related to the integration of new development into historic contexts, which state, in part, that new development should take into account existing "scale, building form, and proportion. The detail, texture, color, and material of the old should be repeated or complemented by the new." (Downtown Plan, a part of the San Francisco Master Plan, II.1.23). Because the project would conform with these objectives, policies, and regulations, any adverse effect on historic properties would be less than significant.

3. Cumulative

Impact 4.10(A)-2 The undertaking may serve to induce additional growth of a similar character in the South of Market Street district, which could result in a further reduction in the integrity of setting for existing historic properties, or the loss of the properties themselves. Conforming to the goals and policies of the Downtown Plan and Urban Design Element of the San Francisco Master Plan, and the Planning Code, would serve to protect these properties. This impact is considered less than significant. [LS]



TENTH AND MARKET ALTERNATIVE AREA OF POTENTIAL EFFECT

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 4.10-1

The undertaking represents a continuation of a trend towards the construction of highrise office buildings in Downtown San Francisco. In the past, this trend resulted in the loss of historic buildings and contributed to the loss of context for the remaining historic properties through the introduction of height, scale, bulk, materials, setbacks and other character defining streetscape elements incompatible with historic properties. The impacts of highrise construction on San Francisco's historic fabric and streetscape are well documented in the architectural and historic preservation literature. The City's development regulations began to reflect these concerns by the early 1970s. The City currently has strong preservationist policies contained in its Master Plan and Planning Code. The current Downtown Plan (and implementing ordinances in the Planning Code) has a program for the preservation of the integrity of historic and other properties of architectural interest. These are described in the Plan's subsection "Urban Form" (II.1.26) and Article 11 of the Planning Code. Development of the area according to the Downtown Plan and Planning Code will aid in preserving the historic qualities of the area. It is the intent of GSA to generally conform to local policies and development standards which take into account the long-term impacts of increased development. Therefore, any adverse effect on historic properties would be less than significant.

4. Mitigation Measures

No mitigation measures are required.

B. Seventh and Mission Alternative

1. Short-Term

The project will cause no short term impacts to historic properties.

2. Long-Term

Impact 4.10(B)-1 The undertaking will result in the demolition of two properties (Hotel Odeon at 36-52 Seventh Street, and Hotel St. Raphael at 54-60 Seventh Street). Because their integrity has been reduced and they are not designated as a State or City Landmark, rated as a Category I or II building under the Downtown Plan, or listed on or eligible for the NRHP, these buildings do not have individual historic significance. Nor do they appear eligible for inclusion in the Market Street Theatre and Loft District. Therefore, their demolition would be considered a less than significant impact. [LS]

A project results in an adverse effect to a historic property where it would cause the "physical destruction, damage, or alteration of all or part of the property." 36 CFR 800.9(b)(1).

Construction of the project at the Seventh and Mission site would require demolition of two buildings currently located on the site. These buildings are the Hotel Odeon at 36-52, and Hotel St. Raphael at 54-60 Seventh Street. Both of these buildings are C-rated buildings by the Heritage. The C rating means that a building has contextual importance; they "provide the setting for more important buildings and they add visual richness and character to the downtown area. Many C-group buildings may be eligible for the National Register as part of historic districts." *Foundation for San Francisco's Heritage* (Corbett, 1979). However, GSA does not consider these particular buildings to be historic resources. They were not rated in the Downtown Plan (Category V), which incorporates and supersedes the Heritage ratings. Furthermore, a field check was conducted by GSA representatives and has confirmed that the integrity of these buildings has been adversely affected by the 1950's addition of a glazed tile facade which joins the structures at the street level. In addition, the City has already issued a demolition permit to a private party. Therefore, these buildings appear to have no importance as historic resources on an individual basis.

SBRA has identified these buildings as potentially eligible for inclusion in an expanded National Register District, the Market Street Theatre and Loft District. In the opinion of SBRA, the demolition of the two buildings could result in a loss of integrity of the potentially expanded Market Street Theatre and Loft District. However, GSA disagrees with this opinion. The boundaries of the Market Street Theatre and Loft District are discussed in the National Register nomination papers for the district. Specifically the nomination states:

> "The proposed district consists only of properties directly facing Market Street, on both sides. In the easterly direction the boundary is a significant change of scale that endures for several buildings, accompanied by a significant degree of remodeling so that too many buildings would be intrusions in the district. In the westerly direction, the boundary on the north side of Market Street is self-evident: a single stripped and sand-blasted one-story brick building stands between the Hotel Shaw and a blockful of new construction that includes the new United Nations Plaza. On the south side of Market there are five old buildings west of the district before the empty lot and new construction, but they too exhibit a change of scale, and two of the five, including the one next to the boundary, would be intrusions in the district."

These boundaries were field checked by the staff of the State Office of Historic Preservation. Boundaries and contributing or non-contributing categories were verified.

This indicates that other buildings were considered for inclusion in the District but rejected. Moreover, the District's boundaries were intentionally limited to buildings fronting on Market Street. Both the Hotel Odeon and the Hotel St. Raphael are located a block away from Market on Seventh Street. As noted above, the buildings were not included in the Downtown Plan rating and have had considerable modifications, resulting in a loss of integrity. Therefore, GSA

has determined that the two buildings on Seventh Street would not be eligible for inclusion in the Market Street Theatre and Loft District and that the loss of these buildings would not have a significant adverse effect on historic resources.

GSA has presented information to the State Historic Preservation Officer (SHPO) supporting its determination as part of the consultation process under Section 106. If, during Section 106 consultation, SHPO or the Advisory Council on Historic Preservation (ACHP) recommends further action, GSA would negotiate a Memorandum of Agreement (MOA) which would require GSA to be responsible for preparation of Historic American Building Survey (HABS) Documentation for the buildings that would be demolished as a result of the undertaking. Documentation of the Odeon Hotel at 35-52 Seventh Street and the Hotel St. Raphael at 54-60 Seventh Street would be to the level determined appropriate by the National Park Service.

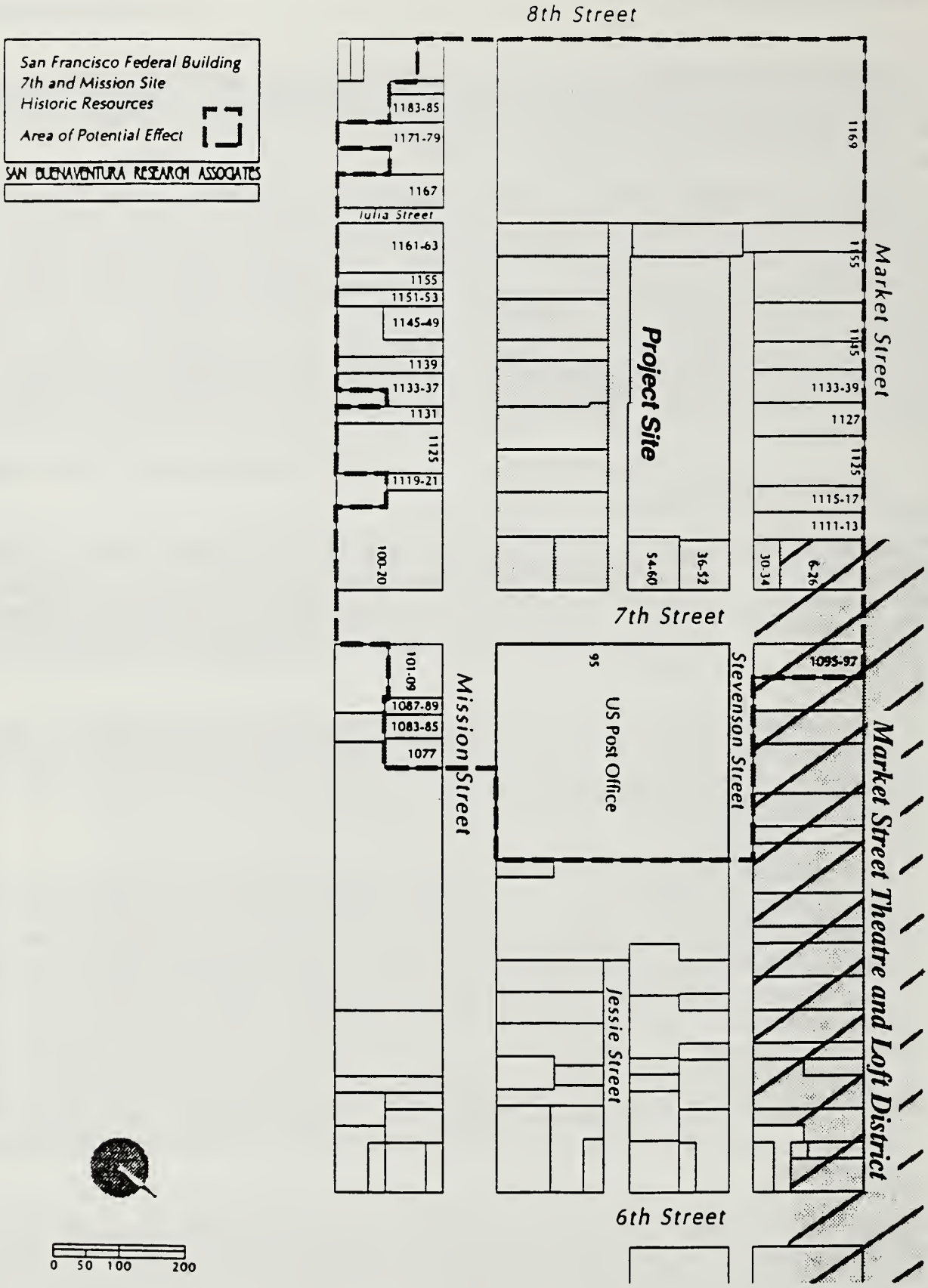
Inventory forms for these buildings and the arguments regarding their National Register eligibility are included in Appendix E.

Impact 4.10(B)-2 Because the project will be developed in accordance with San Francisco regulations and policies governing the integration of new development into historic contexts, the undertaking will not result in an adverse effect on historic properties in the APE. This impact is considered less than significant. [LS]

SBRA has reviewed all structures within the APE. The APE includes two buildings that have a Downtown Plan Rating of I and are part of a NRHP district (the Market Street Theatre and Loft District) and one NRHP listed (U.S. Court of Appeals, Ninth Circuit). See Figure 4.10-2. These three buildings are historic resources.

SBRA is of the opinion that several other buildings appear eligible for inclusion in the Market Street Theatre and Loft District. A discussion of these buildings and the arguments for their eligibility is included in Appendix E, Historic Resources Report. As discussed above, GSA disagrees with this conclusion. SBRA is also of the opinion that certain buildings located on the south side of Mission Street might be eligible for National Register listing as contributing buildings in a new district proposed by SBRA anchored by the U.S. Court of Appeals, Ninth Circuit. The district would cover an area of over two square miles and extend far beyond the APE as defined by SBRA. GSA believes the theme suggested (commerce, industry, tourism, civil life) is too broad to support designation as a historic district and has determined that evaluation of such an extensive potential district as described by SBRA is beyond the scope of this review.

Regardless of whether these properties are NRHP eligible, however, the project would not adversely affect them or the other historic properties in the APE through the "introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting." 36 CFR 800.9(b)(3). It is the intent of GSA to generally conform the proposed



SEVENTH AND MISSION ALTERNATIVE
AREA OF POTENTIAL EFFECT

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

Figure 4.10-2

building to locally adopted zoning and development objectives, policies and regulations, including those related to the integration of new development into historic contexts, which state, in part, that new development should take into account existing "scale, building form, and proportion. The detail, texture, color, and material of the old should be repeated or complemented by the new." (Downtown Plan, a part of the San Francisco Master Plan, II.1.23). Therefore, any adverse effect on historic properties within the APE would be less than significant.

3. Cumulative

Impact 4.10(B)-3 The undertaking may serve to induce additional growth of a similar character in the South of Market Street district, resulting in a further reduction in the integrity of setting for properties designated as a State or City Landmark, rated as a Category I or II building under the Downtown Plan, or listed on or eligible for the NRHP. This impact is considered less than significant. [LS]

The undertaking represents a continuation of a trend towards the construction of highrise office buildings in Downtown San Francisco. In the past, this trend resulted in the loss of historic buildings and contributed to the loss of context for the remaining historic properties through the introduction of height, scale, bulk, materials, setbacks and other character defining streetscape elements incompatible with historic properties. The impacts of highrise construction on San Francisco's historic fabric and streetscape are well documented in the architectural and historic preservation literature. The City's development regulations began to reflect these concerns by the early 1970s. The City currently has strong preservationist policies contained in its Master Plan and Planning Code. The current Downtown Plan (and implementing ordinances in the Planning Code) has a program for the preservation of the integrity of historic and other properties of architectural interest. These are described in the Plan's subsection "Urban Form" (II.1.26) and Article 11 of the Planning Code. Development of the area according to the Downtown Plan and Planning Code will aid in preserving the historic qualities of the area. It is the intent of GSA to conform to local policies and development standards which take into account the long-term impacts of increased development. Therefore, an adverse effect on historic properties would be less than significant.

C. Purchase Alternative

1. Short-Term

The project will cause no short-term impacts to historic properties.

2. Long-Term

Impact 4.10(C)-1 Adaptive reuse of a purchased historic building would be implemented in a manner that would comply with the Secretary of Interior's Standards for Rehabilitations and Guidelines for Rehabilitating Historic Buildings. This impact is considered less than significant. [LS]

If this alternative involves the acquisition of a significant historic property, its adaptive reuse could result in alterations which have an adverse effect on its integrity. However, GSA is required by Section 106 of the Historic Preservation Act of 1966 to determine if any building proposed for purchase is listed on, or is eligible for listing on, the NRHP, and is also required consult with the SHPO and ACHP regarding any proposal for their adaptive reuse. GSA normally complies with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Under 36 CFR 800.9 (c)(2) implementation of a project in conformance with the Standards and Guidelines is considered not adverse.

3. Cumulative

Implementation of this project alternative would not result in any cumulative impacts.

4. Mitigation Measures

No mitigation measures are required.

D. Lease Alternative

1. Short-Term

The project will cause no short-term impacts to historic properties.

2. Long-Term

Impact 4.10(D)-1 Leasing space in a historic building would be implemented in a manner that would comply with the Secretary of Interior's Standards for Rehabilitations and Guidelines for Rehabilitating Historic Buildings. This impact is considered less than significant. [LS]

If this alternative involves the lease of a significant historic property, its adaptive reuse could result in alterations which have an adverse effect on its integrity. However, GSA is required by Section 106 of the Historic Preservation Act of 1966 to determine if any building proposed for lease is listed on, or is eligible for listing on, the NRHP, and is also required consult with the SHPO and the ACHP in order to give the SHPO and ACHP an opportunity to comment on the undertaking. GSA normally complies with the Secretary of the Interior's Standards for

Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Under 36 CFR 800.9 (c)(2) implementation of a project in conformance with the Standards and Guidelines may be considered not adverse.

3. Cumulative

Implementation of this project alternative would not result in any cumulative impacts.

4. Mitigation Measures

No mitigation measures are required.

E. No Action Alternative

No significant impacts are anticipated to occur as a result of this alternative, which would involve no change to the Tenth and Market or Seventh and Mission sites. GSA would continue to occupy commercial leased space and existing federally owned buildings. GSA is required by Section 106 to determine if any building for which alterations are proposed is listed on, or is eligible for listing on, the NRHP, and is required to consult with the SHPO and ACHP in order to give them an opportunity to comment on the proposed undertaking. GSA normally complies with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Under 36 CFR 800.9 (c)(2) implementation of a project in conformance with the Standards and Guidelines may be considered not adverse.

4.11 PUBLIC UTILITIES AND PUBLIC SERVICES

4.11.1 Electricity

Impact Assessment Methodology and Significance Thresholds

The impacts of the project on electrical service and supply were developed through correspondence with Pacific Gas & Electric Company (PG&E), the service provider. Impacts to electricity were considered significant if additional demands created by the project were beyond the provider's capabilities, requiring new personnel or facilities.

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-1 Project implementation would require substructure work to install primary and secondary electric facilities and infrastructure. This impact is considered less than significant. [LS]

Project implementation at the Tenth and Market Alternative site would require substructure work in the franchise area as well as the installation of the necessary primary and secondary facilities. PG&E normally provides electric service to a preferred service point via a transformer located in a custom built electric transformer vault. The work required to provide service to the proposed structure may result in potential short-term service interruptions within the vicinity of the site. PG&E has standard notification procedures for these interruptions. These service interruptions are considered to be less than significant.

2. Long-Term

Impact 4.11(A)-2 Project implementation would result in the introduction of a 675,000 GSF federal building requiring approximately 68.4 kilowatt-hours (kWh) of electricity annually. This impact is considered less than significant. [LS]

Project implementation at the Tenth and Market Alternative site would result in the introduction of a federal office building with approximately 675,000 GSF, which would consume annually approximately 68.4 million kWh (700.3 billion British Thermal Unit [BTU]) (see Appendix J). This demand level is not expected to adversely affect electrical distribution systems (Crane, written communication, March 21, 1994). Impacts to electrical supply and infrastructure are therefore considered less than significant.

3. Cumulative

PG&E has indicated that, under ABAG projections, the demand level of the proposed project would not prevent it from serving future development within its current capacities. Therefore, increases in electrical demand associated with cumulative buildout are considered less than significant.

4. Recommended Measures

PG&E will meet any electrical requirements associated with the proposed project. As a result, both short-term and long-term impacts are considered less than significant and no mitigation measures are required. However, the following measures are recommended to lessen the impacts associated with project implementation and meet the requirements of Executive Order (EO) 12902.

a. Project design and construction shall meet or exceed the energy performance standards applicable to federal residential and commercial standards as set forth in 10 Code of Federal Regulations 435, local building standards, or a BTU per GSF of ceiling; whichever will result in a lower life cycle cost over the life of the project.

b. Project design should include the utilization of active solar energy, and energy-efficient equipment (personal computers, security systems, etc.) and lighting where feasible.

c. Project design should utilize passive solar technologies such as decreasing parking lot area on building exteriors to decrease "heat sinks" and increasing the use of landscaping for shading to keep surrounding buildings cooler.

d. GSA shall ensure that the proposed project meets the requirements of Executive Order (EO) 12902 before the structure is accepted into the federal facility inventory.

B. Seventh and Mission Alternative

The information discussed under the Tenth and Market Alternative site also applies to the Seventh and Mission Alternative site.

C. Purchase Alternative

Under the Purchase Alternative, electrical service would already be in place. Therefore, no short-term, long-term or cumulative impacts are expected in association with this alternative. No mitigation measures are required.

D. Lease Alternative

Similar to the Purchase Alternative, the Lease Alternative would already be serviced with electricity. Therefore, no short-term, long-term or cumulative impacts are associated with the implementation of the Lease Alternative. No mitigation measures are required.

E. No Action Alternative

Implementation of the No Action Alternative would not affect electrical supply or infrastructure. As the electrical demand at the existing federally owned and leased facilities is adequately served by existing electrical supplies and infrastructure, no impacts would be associated with implementation of the No Action Alternative.

4.11.2 Natural Gas

Impact Assessment Methodology and Significance Thresholds

The Pacific Gas and Electric Company (PG&E) furnishes natural gas to the City of San Francisco and would provide service to all of the alternative sites. PG&E maintains an extensive gas network which can be tapped into and extended as needed for each alternative.

The project was considered to have an impact if, in the opinion of the service provider, the additional demand created by the project is beyond the provider's capabilities, requiring additional personnel or facilities (e.g. substations, etc.). The following analysis was based on correspondence with the service provider, PG&E.

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-3 No short-term impacts to natural gas are anticipated in association with implementation of the project. Therefore, impacts are considered less than significant. [LS]

Standard facilities are supplied at PG&E's expense. No short-term impacts to natural gas are anticipated in association with implementation of the Tenth and Market Alternative.

2. Long-Term

Impact 4.11(A)-4 Gas distribution systems are anticipated to be adequate to accommodate the proposed project. Long-term natural gas impacts are therefore, less than significant. [LS]

While the specific gas load requirements have not yet been determined, past experience has shown that the gas distribution systems should be adequate to handle the proposed project's needs (Crane, written communication, March 21, 1994). Moreover, PG&E is obligated to extend new facilities or reinforce existing facilities to provide gas service. Natural gas consumption for the building would be 7,425,000 BTU (74.3 Therms).

3. Cumulative

No cumulative impacts to gas service are anticipated in association with the Tenth and Market Alternative site, because it would not affect PG&E's ability to serve development within ABAG projections.

4. Mitigation Measures

Because there are no impacts to natural gas associated with the Tenth and Market Alternative, no mitigation measures are required. However, the project should be designed to comply with or exceed the performance standards of EO 12902.

B. Seventh and Mission Alternative

No short-term, long-term or cumulative impacts are anticipated to natural gas as a result of project implementation at the Seventh and Mission site. The same conditions discussed under the Tenth and Market Alternative regarding natural gas also apply to the Seventh and Mission site. Because there are no impacts to natural gas associated with the Seventh and Mission site, no mitigation measures are required. However, the project should be designed to comply with or exceed the performance standards of EO 12902.

C. Purchase Alternative

Under the Purchase Alternative, natural gas service would already be in place. Therefore, no short-term, long-term or cumulative impacts are expected in association with this alternative. No mitigation measures are required.

D. Lease Alternative

Similar to the Purchase Alternative, the Lease Alternative would already be serviced with natural gas. No short-term, long-term or cumulative impacts are expected and no mitigation measures are required.

E. No Action Alternative

Implementation of the No Action Alternative would not require extension or expansion of gas distribution facilities. Since existing federally owned and leased facilities are adequately served by natural gas supplies and infrastructure, no long-term impacts would be associated with implementation of the No Action Alternative. Furthermore, implementation of the No Action Alternative would not increase natural gas demand at existing facilities. Therefore, no short-term, long-term or cumulative impacts to natural gas service or supply would be associated with implementation of the No Action Alternative. No mitigation measures are required.

4.11.3 Solid Waste

Impact Assessment Methodology and Significance Thresholds

Determination of the level of impact to solid waste service and disposal was based on correspondence with sources at the San Francisco Solid Waste Management Agency, Solid Waste Management Program. The project is considered to have an impact on solid waste if it would substantially reduce the useful life of a landfill or substantially hinder disposal services' ability to collect garbage or require new facilities or personnel to serve the project.

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-5 Demolition and removal of all structures would generate rubbish that would be landfilled. This impact is considered less than significant. [LS]

The Tenth and Market Alternative site is currently covered with structures as well as a former car wash and gas pump canopy. Project implementation at the site would require demolition and clearing of all structures. This would not significantly impact short-term solid waste disposal capacities (Keller, written communication, March 17, 1994).

2. Long-Term

Impact 4.11(A)-6 Implementation of the Tenth and Market Alternative would generated a maximum of 448 tons of garbage per year. This impact is considered less than significant. [LS]

Project implementation at the Tenth and Market Alternative site would introduce a Federal Office Building land use with approximately 675,000 GSF. Sources at the Solid Waste Management Program assume a waste generation rate of 2.3 lbs/day per employee with half in recyclables and half in garbage. This would generate a maximum of 448 tons per year of recyclables and 448 tons per year of garbage. The impact of this project would not be of major significance in the total commercial waste stream in San Francisco (Keller, written communication, March 17, 1994).

3. Cumulative

Implementation of the project is not considered to be of major significance in the entire waste stream (Keller, written communication, March 17, 1994). Therefore, there are no cumulative impacts to solid waste collection or disposal associated with the Tenth and Market Alternative.

4. Recommended Measures

As project impacts would not be significant, no mitigation measures are required. However, the following measures are recommended in order to achieve the reduction goals specified in the California Integrated Solid Waste Management Act of 1989 (AB 939) and Council of Environmental Quality pollution prevention guidance (*Federal Register*, January 29, 1993). In addition, the project should comply with all City and County Ordinances pertaining to minimizing waste through recycling.

Short-term measures include:

a. Recycled construction materials should be utilized where feasible.

b. Encourage recycling of construction and demolition materials.

c. Include built-in compartmentalized recyclable material collection bins in project design.

Long-term measures include:

a. A long-term waste management plan for comprehensive recycling of materials should be developed for the proposed project. Such a plan should be developed in coordination with existing recycling programs in the project area, and should

target materials generated by office building land uses. These materials include corrugated cardboard, paper, newsprint, glass, steel/tin cans, aluminum beverage containers, plastic, and any additional materials as the market warrants.

b. Designate space for collection and storage. Sources at the Solid Waste Management Program recommend approximately 900 square feet for recycling storage and 900 square feet for garbage storage. This assumes one time per week collection and could be reduced with more frequent pick-ups (Keller, written communication, March 17, 1994)

B. Seventh and Mission Alternative

1. Short-Term

Short-term impacts would be similar to the Tenth and Market Alternative. Please refer to Impact 4.11(A).5.

Project implementation at the Seventh and Mission Alternative would involve demolition and clearing of existing onsite structures. It may also involve the removal of underground storage tanks. However, since most of the site is used for surface parking, the amount of rubble generated would not be considered to have a significant impact on solid waste.

2. Long-Term

Long-term impacts would be similar to the Tenth and Market Alternative. Please refer to Impact 4.11(A)-6.

Implementation of the proposed federal office building at the Seventh and Mission Alternative would result in the same long-term impacts discussed under the Tenth and Market Alternative.

3. Cumulative

The proposed project at the Seventh and Mission location is not anticipated to contribute negatively to cumulative development impacts on solid waste service or capacity.

4. Mitigation Measures

The same short-term and long-term waste reduction measures recommended for the Tenth and Market Alternative also apply to the Seventh and Mission Alternative.

C. Purchase Alternative

1. Short-Term

No short-term impacts to solid waste are anticipated in association with the Purchase Alternative as no site clearance would be involved.

2. Long-Term

The same generation factors and impacts discussed under the Tenth and Market Alternative also apply to the Purchase Alternative. A purchase would not, however, increase the City's current office space. There would not be a significant net increase in solid waste generation.

3. Cumulative

No negative cumulative impacts to solid waste collection are anticipated to result from the Purchase Alternative.

4. Mitigation Measures

The measures recommended under the Tenth and Market Alternative regarding recycling also apply to the Purchase Alternative.

D. Lease Alternative

The discussion of solid waste impacts under the Purchase Alternative also applies to the Lease Alternative.

E. No Action Alternative

1. Short-Term

Implementation of the No Action Alternative would not result in the short-term generation of solid waste associated with demolition or construction activities.

2. Long-Term

Implementation of the No Action Alternative would have no long-term impacts on solid waste because the amount of solid waste generated would not change. The solid waste currently generated by the existing facilities is accommodated by landfills in the area, therefore no long-term impacts to solid waste would be associated with the No Action Alternative.

3. Cumulative

Implementation of the No Action Alternative would not increase solid waste generation. Therefore, the No Action Alternative would not adversely impact landfill capacity.

4. Mitigation Measures

No short-term, long-term or cumulative impacts would be associated with the No Action Alternative. Therefore, no mitigation measures are required.

4.11.4 Water Supply

Impact Assessment Methodology and Significance Thresholds

Impacts to water supply were assessed based on communication with the San Francisco Water Department City Distribution Division. The project is considered to have an impact if it would substantially reduce the supply and distribution of water within the project area or significantly degrade water quality or require new facilities or personnel to serve the project.

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

4.11(A)-7 The connection and/or replacement of any water distribution pipelines during construction has the potential to result in short-term service interruptions in the vicinity of the project site. [LS]

Implementation of the proposed project may require the improvement of onsite water distribution systems to accommodate proposed structures. Installation of these systems may result in potential short-term service interruptions within the site vicinity due to construction related activities. These service interruptions are considered to be adverse, but less than significant, due to their short-term nature. Standard service repair procedures would be implemented to limit any service interruptions.

2. Long-Term

4.11(A)-8 Project implementation would not result in any impacts to either water infrastructure or supplies within the San Francisco area. [LS]

There is adequate infrastructure and water to supply the Tenth and Market Alternative site. The San Francisco Water Department has expressed no concerns specific to the federal office

building (Pelayo, written communication, March 29, 1994). GSA would, however, implement water conserving measures to reduce water demand to the extent that is feasible and per direction given in EO 12902. Therefore, no long-term impacts are expected to result from implementation of the project.

3. Cumulative

Under ABAG projections of future development, the project would not significantly impact water supply or service. Exceeding ABAG projections could require expansion of development in areas served by the particular water system in San Francisco. (Pelayo, written communication, March 29, 1994). However, there is no basis for assuming such development will occur.

4. Recommended Measures

Project implementation at the Market and Tenth Street Alternative would not result in any short- or long-term impacts to water services. However, the following mitigation measures are recommended to further reduce water demand:

The building design, to the extent that is feasible, shall incorporate the following water conservation measure, which includes the:

a. Installing low flow toilets (1.6-gallon), shower heads and sink faucets.

b. Installing recirculating hot water systems to minimize water consumption.

c. Equipping public lavatories with self-closing faucets.

d. Incorporating plumbing fixtures that reduce potential water leakage due to excessive wear of washers.

e. Maintaining water pressure of 50 psi or less within the proposed structure.

f. Planting of drought-tolerant species for exterior and interior landscaping.

g. Irrigating landscaping via efficient watering methods, such as drip and low output sprinkler systems.

B. Seventh and Mission Alternative

The discussion of water supply impacts under the Tenth and Market Alternative also applies to the Seventh and Mission Alternative. Please refer to item "A" above.

C. Purchase Alternative

1. Short-Term

Although no specific building has been identified to acquire, no short-term impacts to water supply are anticipated to result from implementation of the Purchase Alternative.

2. Long-Term

It is assumed that the Purchase Alternative would be adequately serviced with water supply infrastructure as it would be an existing structure. As long as water supplies remain adequate, no long-term impacts are expected to result from implementation of the Purchase Alternative.

3. Cumulative

Refer to the discussion of cumulative impacts under the Tenth and Market Alternative.

4. Mitigation Measures

No short-term, long-term or cumulative impacts are anticipated, therefore no mitigation measures are required.

D. Lease Alternative

The discussion of water supply impacts under the Purchase Alternative also applies to the Lease Alternative.

E. No Action Alternative

1. Short-Term

Implementation of the No Action Alternative would not require extension or expansion of water distribution facilities at existing federally owned and leased space. Therefore, no short-term impacts would be associated with implementation of the No Action Alternative.

2. Long-Term

Implementation of the No Action Alternative would not increase the rate of water use at existing federally owned and leased facilities. As the water demand at the existing facilities is adequately served by existing water infrastructure and supplies, no long-term impacts would be associated with implementation of the No Action Alternative.

3. Cumulative

Implementation of the No Action Alternative would not increase water demand at the existing facilities. Therefore, implementation of the No Action Alternative would not contribute to any potential cumulative impacts associated with buildout of projects within the City.

4. Mitigation Measures

No impacts to water services would be associated with implementation of the No Action Alternative. Therefore, no mitigation measures are required.

4.11.5 Wastewater

Impact Assessment Methodology and Significance Thresholds

Impacts to the wastewater system resulting from the proposed project were based on correspondence with the San Francisco Public Works Department, Bureau of Engineering, Hydrology Section. As the service provider, the Public Works Department determines how additional development will impact existing infrastructure. If, in the opinion of the service provider, the project would substantially adversely affect the sewer system or infringe on its capacity, significant impacts are identified.

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-9 Because no wastewater service extensions are required (Anderson, written communication, March 15, 1994), no short-term impacts are anticipated in association with implementation of the Tenth and Market Alternative. [LS]

2. Long-Term

Impact 4.11(A)-10 Portions of the sewer collection system are undersized, but are being upgraded through expansion projects. This impact is considered less than significant. [LS]

The Combined Sewer Overflow Master Plan is currently under design and construction throughout the City. Existing limitations in the system are being overcome through expansion projects. Upgrades to the sewer collection infrastructure in the vicinity of the Tenth and Market alternative are in place and are adequate to accommodate the proposed project (Anderson, personal communication, October 5, 1995). Therefore, no impacts on sewage service are expected to result from the proposed project.

3. Cumulative

No cumulative impacts to the wastewater system are anticipated in association with the proposed federal office building under ABAG projections. (Anderson, March 15, 1994).

4. Mitigation Measures

Because there are no impacts to the wastewater system resulting from implementation of the proposed project, no mitigation measures are required.

B. Seventh and Mission Alternative

1. Short-Term

No short-term impacts to wastewater are anticipated to result from project implementation at the Seventh and Mission Alternative.

2. Long-Term

The same long-term impact considerations discussed under the Tenth and Market Alternative also apply the Seventh and Mission Alternative.

3. Cumulative

The same cumulative considerations discussed under the Tenth and Market Alternative also apply to the Seventh and Mission Alternative.

4. Mitigation Measures

Refer to the discussion under the Tenth and Market Alternative.

C. Purchase Alternative

1. Short-Term

Since the Purchase Alternative would be an existing building served by the wastewater system, no short-term impacts are anticipated.

2. Long-Term

Existing wastewater infrastructure is adequate to handle current building inventory. Therefore, there are no long-term impacts to the wastewater system associated with the Purchase Alternative.

3. Cumulative

As an existing structure currently receiving service, the Purchase Alternative would have no cumulative impacts on the wastewater system.

4. Mitigation Measures

No mitigation measures are required for the Purchase Alternative.

D. Lease Alternative

1. Short-Term

Similar to the Purchase Alternative, the Lease Alternative would be served by the wastewater system. No short-term impacts are anticipated.

2. Long-Term

Existing wastewater infrastructure is adequate to handle current building inventory. Therefore, there are no long-term impacts to the wastewater system associated with the Lease Alternative.

3. Cumulative

As an existing structure currently receiving service, the Lease Alternative would have no cumulative impacts on the wastewater system.

4. Mitigation Measures

No mitigation measures are required for the Lease Alternative.

E. No Action Alternative

1. Short-Term

Because no construction would occur under the No Action Alternative, no short-term impacts to the wastewater system would occur.

2. Long-Term

Under the No Action Alternative, the Federal Government would continue to meet its space needs by leasing and in existing federal buildings. Therefore, no associated long-term wastewater generation impacts would result.

3. Cumulative

Because there would be no project under this alternative, there would be no cumulative impacts.

4. Mitigation Measures

Because there would be no long-term, short-term, or cumulative impacts under the No Action Alternative, no mitigation measures are required.

4.11.6 Police Protection

Impact Assessment Methodology and Significance Thresholds

The potential impacts of the project on police services was assessed based on consultation with the San Francisco Police Department. According to sources at the Department, there is no established ratio of police officers per 1,000 population. Most urban areas staff around one officer per 500 residents (Lang, written communication, March 21, 1994). This is generally the level of service to which the Department adheres. Due to the nature and use of the proposed federal office building, the likelihood of crimes occurring is considered low. However, sources at the Department have indicated that an optimal level of service would be 1 officer per 380 population, or 2.6 officers for every 1,000 population. In spite of the fact that the Department is currently operating below this level with 1 officer per every 430 population, or 2.3 officers for every 1,000 residents, no significant impacts to police protection are anticipated as a result of the proposed project. The Department and Board of Supervisors will propose full staffing of 1,971 officers. The Department assesses its needs through the budget process every fiscal year.

It should be noted that the number of police officers per 1,000 population does not necessarily correlate directly with a high or low incidence of crime (Jones and Jones, October 1993a). It is more or less a generally accepted measure of police protection.

For purposes of this EIR, an impact is considered significant if it would place a substantial burden on the Police Department's ability to provide adequate police protection.

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-11 During construction, there is a potential for theft and vandalism of construction materials and equipment. This impact is considered less than significant. [LS]

Construction activities may result in the project site being subject to an increase in crimes associated with theft and vandalism. However, GSA would implement measures such as fencing and other security precautions, which would minimize these impacts to a level of insignificance.

2. Long-Term

Impact 4.11(A)-12 The proposed federal office building is not expected to affect the type and frequency of crimes reported in the vicinity of the Tenth and Market Alternative site. Therefore, no long-term impacts to police protection are expected. [LS]

With the proposed project, there could be an increase in crimes associated with a greater population of office workers on site than currently exists. However, the increased activity and population at the site could also act as a deterrent for some crimes.

Impact 4.11(A)-13 Sources at the Department have indicated that staffing levels are adequate (Lang, written communication, March 21, 1994). Therefore, this impact is considered less than significant. [LS]

Implementation of the federal office building would not impact the Department's funding. Current staffing levels of one officer per every 430 population (or 2.3 officers for every 1,000 residents) will provide adequate police protection according to sources at the San Francisco Police Department. No long-term impacts to police protection are anticipated.

3. Cumulative

No additional staff will be required to accommodate cumulative development. Therefore, no cumulative impacts to police protection are expected in association with implementation of the Tenth and Market Alternative.

4. Mitigation Measures

Because there are no short-term, long-term or cumulative impacts resulting from the Tenth and Market Alternative, no mitigation measures are required.

B. Seventh and Mission Alternative

Similar to the Tenth and Market Alternative, no short-term, long-term or cumulative impacts are associated with implementation of the proposed federal office building at the Seventh and Mission Alternative site. No mitigation measures are required.

C. Purchase Alternative

A building for purchase has not been determined. Therefore, no specific impacts to police protection can be identified. However, given current staffing levels and the likelihood that the building will be located in the CBD or the Civic Center near a police station, no short-term, long-term or cumulative impacts are expected.

D. Lease Alternative

Leasable office space has not been identified to house federal agencies. As a result, it is not possible to identify specific impacts to police protection associated with the Lease Alternative. However, because space would most likely be leased in the CBD or near the Civic Center where police stations are nearby, no short-term, long-term or cumulative impacts to police protection are expected.

E. No Action Alternative

Under the No Action Alternative, the federal government would continue operations in commercially leased and federally owned space. The continued use of existing facilities would not involve any additional construction. Therefore, the No Action Alternative would not result in any short-term, long-term or cumulative impacts to police services.

4.11.7 Fire Protection

Impact Assessment Methodology and Significance Thresholds

The assessment of the federal building project and its impacts on fire protection has been based on communication with staff from the City of San Francisco Fire Department (SFFD) and information found in the *San Francisco Mission Bay Environmental Impact Report,* August 23, 1990.

The Fire Department uses several standards to assess its service levels. These include a target staff ratio of 4.7 fire fighters per 1,000 residents and an average response time of 3 to 4 minutes or better (Slater, written communication, March 1, 1994). These standards were used to determine the significance of impacts resulting from the proposed building on fire protection services.

Threshold levels are defined as the point at which an increase in the number of incidents to a given station lengthens response time to an unacceptable level. In order to maintain an acceptable level of first-response availability, a fire company should be added when an increase in the service time demand equals the threshold level (San Francisco, City and County of, August 23, 1990, p. XIV.D.8). Fire flow requirements are 1,500 gallons per minute, based on consultation with the SFFD. Flows below this level would not be adequate.

It should be noted that the Fire Department does not have an established formula for threshold levels which would vary substantially contingent upon time frame, location, equipment, availability and various other service demands of a particular area in San Francisco (San Francisco, City and County of, August 23, 1990, p. XIV.D.14)

Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.11(A)-14 During construction, there is the potential for an increase in the number of calls for service due to construction-related accidents. This impact is considered less than significant. [LS]

Construction activities onsite would increase the potential for accident related service calls. However, fire protection staffing and equipment levels within the City are adequate and Station #36, which has first response time, is equipped with Emergency Medical Services (EMS). In addition, construction safety practices would be observed to reduce the likelihood of injury. Therefore, short-term demand increases on fire protection are considered to be less than significant.

2. Long-Term

Impact 4.11(A)-15 Construction of a high rise building on the Tenth and Market Alternative site would place additional demand on fire protection services. This is considered to be a less than significant impact. [LS]

A federal building on the Tenth and Market Alternative site would introduce a new structure to the City and would result in intensified activities. A maximum of 2,748 persons would occupy this building during normal business hours. However, no additional fire protection personnel will be required as a result of the proposed project (Slater, written communication, March 1, 1994). Therefore, this impact is less than significant.

The Tenth and Market Alternative site, and office uses in general, have a low incidence of fires (Slater, written communication, March 1, 1994). Because the building would be a high-rise structure, fire protection would be complicated by potential constraints to locating, accessing, and predicting the movement of onsite fires. However, GSA will build in accordance with federal safety codes and where feasible would comply with local fire and safety codes.

Impact 4.11(A)-16 Existing fire flow to the proposed site is 600 GPM (Slater, written communication, March 1, 1994). The required flow is 1,500 GPM. Because GSA, in conjunction with the City and County of San Francisco, would assure that a 1,500 GPM flow is made available to the project, this impact is not significant. [LS]

The Tenth and Market Alternative is serviced by an 8-inch domestic main in Tenth Street. Water supply infrastructure will be upgraded to assure that fireflows meet San Francisco Building and Fire Code requirements. Because provisions would be made to assure adequate flows are available at the project site in keeping with federal safety codes, and GSA would comply with local fire and safety codes where feasible, this impact is less than significant.

3. Cumulative

Impact 4.11(A)-17 Cumulative development, including the proposed project, would not require additional fire protection personnel and equipment. This impact is considered less than significant. [LS]

Cumulative development within the City would introduce additional residential, office, commercial and retail land uses. These proposed land uses and associated growth would be expected to result in additional calls for service thereby increasing the demands on the Fire Department. The SFFD uses population factors as well as the type of occupancy to determine need for additional staff and personnel. Normally, personnel and equipment are replaced on a regular basis. The proposed federal office building would have no direct impact on the Fire Department's funding for acquisition of equipment or increased manpower through impact fees or benefit assessments. Sources at the Department have indicated that no additional personnel, equipment or fire stations would be required to accommodate cumulative development (Slater, written communication, March 1, 1994).

4. Mitigation Measures

Because there are no short-term, long-term, or cumulative impacts to fire protection resulting from implementation of the Tenth and Market Alternative, no other mitigation measures are required.

B. Seventh and Mission Alternative

1. Short-Term

Short-term fire protection and emergency medical services impacts for the Seventh and Mission Alternative site would be similar to the Tenth and Market Alternative.

2. Long-Term

The long-term impacts to fire protection would be similar to those of the Tenth and Market Alternative. Existing fire flow at the Seventh and Mission Alternative site is 6,000 gallons per minute at 225 pounds per square inch. The required flow is 1,500 gallons per minute at 60 pounds per square inch. Therefore, flows are more than adequate at the Seventh and Mission Alternative site. A 16-inch domestic main located in Seventh Street, an 8-inch Domestic Main at Stevenson Street and a 12-inch domestic main in Mission Street provide water to the site (Slater, written communication, March 1, 1994).

As with the Tenth and Market Alternative site, the frequency of fires associated with the site is considered low (Slater, written communication, March 1, 1994).

3. Cumulative

Cumulative impacts would be similar to those discussed under the Tenth and Market Alternative.

4. Mitigation Measures

All impacts associated with the Seventh and Mission Alternative site are less than significant. Therefore, no specific mitigation measures are required.

C. Purchase Alternative

A building for purchase has not been determined. Therefore, no specific impacts to fire protection can be identified. However, given current staffing levels and the likelihood that the building will be located in the CBD or Civic Center Area near a fire station, no short-term, long-term or cumulative impacts are expected.

D. Lease Alternative

Leasable office space has not been selected to house federal agencies. As a result, it is not possible to identify specific impacts to fire protection associated with the Lease Alternative. However, because the space would most likely be leased in the CBD or near the Civic Center where fire stations are nearby, no short-term, long-term or cumulative impacts to fire protection are expected.

E. No Action Alternative

The No Action Alternative would require the continued use of federally owned and commercially leased space, to meet the needs of the General Services Administration. Continued use of existing facilities would not impact fire protection services. Therefore, no short-term, long-term, or cumulative impacts or mitigation measures would be associated with implementation of the No Action Alternative.

4.12 TRANSPORTATION AND CIRCULATION

4.12.1 Impact Assessment Methodology and Significance Thresholds

Trip Generation, Distribution and Assignment

The proposed use of the new Federal Building would be for regional offices and law enforcement agencies. None of the agencies are expected to have high public contact as would, for example, a courthouse. Therefore, the C-3 District trip rates listed in the City's *Guidelines for Environmental Review: Transportation Impacts*, July, 1991 (hereafter referred to as *Guidelines)* are expected to be applicable to the proposed Federal Building. To verify this assumption, a detailed person-trip generation study was conducted at two existing Federal Buildings with a similar mix of tenants. The Oakland Federal Building was observed on February 17, 1994, from 6 a.m. to 7 p.m. The Federal Building at 50 United Nations plaza was observed during the PM peak period, from 4 p.m. to 6 p.m. on February 23, 1994.

The Oakland Federal Building was 61.7 percent occupied at the time of the survey as the court uses had not yet been moved there. Although this building will have some court uses, they were still under construction at the time of the survey. Thus, the agencies occupying the building at the time of the survey were similar to the type of federal agencies that are expected to occupy the SF Federal Building.

Person-trips at the Oakland Federal Building were counted or obtained at three stations: the main doors into the lobby at both the east and west entrances, the side doors which are controlled by a security card access, and the garage, also controlled by a security card. The main entrances were counted during the hours of 6 a.m. to 7 p.m. The doors are locked after 7 p.m. and all ingress and egress takes place through one of the controlled entrances. Person-trip counts at the controlled entrances (side doors and the garage entrance) were obtained from the field office manager. Therefore, a 24-hour record of access to the building was available. A summary of the observed person-trip data at the Oakland Federal Building is presented in Appendix F. Upon analysis of the field counts and entry records, the AM, PM and noon peak hours were determined.

The Oakland Federal Building generates 9,928 person-trips per day. The AM peak hour was 7:15 to 8:15 a.m. and the PM peak hour was 4:15 to 5:15 p.m. The person-trip rate per thousand gross square feet (GSF) and per employee were determined for both daily and the PM peak hour. The Oakland Federal Building generates 15.2 person-trips per 1,000 GSF per day. The PM peak percentage is 9.7 percent, which is equivalent to a PM peak hour person-trip rate of 1.48 per 1,000 GSF. This compares to the daily person-trip rate for C-3 office space of 11.1 per 1,000 GSF and a PM peak percentage of 11.3 percent (which is equivalent to a PM peak hour rate of 1.25 person-trips per 1,000 GSF). The observed daily rates per 1,000 GSF are 37 percent higher than the C-3 rates (15.2 vs. 11.1) and the observed p.m. peak hour rates are 18 percent higher than the C-3 rates per 1,000 GSF (1.48 vs 1.25). Per employee, the Oakland

Federal Building has a trip rate similar to the trip rates specified in the *Guidelines*. On a daily basis, the Oakland Federal Building generates 3.51 trips per employee, 15 percent higher than the C-3 rate of 3.06 per employee. During the PM peak hour, the Oakland Federal Building generates 0.34 trips per employee, which is slightly less than the C-3 rate of 0.35 per employee.

A trip generation study was also performed at 50 United Nations Plaza, a federal building in San Francisco, during the PM peak period of 4 to 6 p.m. This study observed 219 person trips entering or exiting the building during the peak hour of 4 to 5 p.m. This translates to a PM peak hour person-trip rate of 0.61 per 1,000 GSF and 0.23 per employee, compared to the C-3 PM peak hour person-trip rate of 1.25 per 1,000 GSF and 0.35 per employee. These are much lower than the C-3 rates for the following reasons: 50 United Nations Plaza is a secured building, with a security guard in the lobby. All employees must show their access card to enter. The agencies have very limited public access, and the guard must be informed of all visitors in advance. It is also a historic building which, in general, utilizes floor space much less efficiently. Consequently, the trip rate per GSF is relatively low compared to the trip rate per employee.

A summary of the observed trip rates at the Oakland Federal Building, 50 United Nations Plaza and the rates for C-3 use from the *Guidelines* is presented in Table 4.12-1. The proposed San Francisco Federal Building is expected to be more similar to the Oakland Federal Building than to 50 United Nations Plaza. Therefore, the trip rate based on employees, as observed at the Oakland Federal Building, was used for the proposed San Francisco Federal Building. This trip rate is 0.34 trips per employee and was applied to the maximum expected number of employees for the proposed Federal Building.

Assumptions for mode splits and directional assignments for the person-trips were obtained from the *Guidelines*. The *Guidelines* specify the directional assignment and a unique array of mode split assumptions depending on the point of origin of the trip. The mode split and directional assignment percentages that were applied to the person-trips are presented in Appendix F. The resulting trips by mode by location that would be generated by the proposed SF Federal Building are presented in Table 4.12-3 and Table 4.12-4.

The proposed Federal Building would generate 10,530 daily person trips and 1,020 PM peak hour person trips (Table 4.12-2). The Federal Building would generate 205 vehicle-trips during the PM peak hour, 184 outbound and 21 inbound (Table 4.12-3). It would also generate a total of 739 other person-trips of which 567 would be transit trips (including ferry), 158 walk trips and 14 other trips (which include biking, taxi and drop-off) (Table 4.12-4). Vehicle-trips were assigned to the street network and the transit person-trips were assigned to the transit network.

Future Traffic Volumes

The future analysis year for this study is 2010. To forecast the volumes for the year 2010, the methodology described in the *Guidelines* was used. This methodology involved applying a

growth factor to the existing traffic volumes. The growth factor specified in the *Guidelines* for the time period between 1985 and 2000 was converted into an annual growth rate. This annual growth rate was assumed to occur throughout the time period between 1994 and 2010. Where intersections border between two growth rates (e.g. along Market Street) an average of the two rates was used. The traffic forecasts after applying the growth factors is referred to as the 2010 Base Case scenario.

Table 4.12-1
Comparison of Person-Trip Rates
Existing Federal Buildings vs. Conventional Office Space
New Federal Building EIS/EIR - San Francisco

Time Period	Oakland Federal Building	50 United Nations Plaza	C-3 Primary Office[1]	Oakland Federal Building	50 United Nations Plaza	C-3 Primary Office[1] (>200,000 GSF)
	Person-Trips per 1,000 GSF			Person-Trips per Employee		
PM Peak Hour	1.48	0.61	1.25[2]	0.34	0.23	0.35[2]
Daily	15.21	Not Available	11.1	3.51	Not Available	3.06

GSF Gross Square Feet
1 *Guidelines for Environmental Review: Transportation Impacts, July 1991*, Department of City Planning, City and County of San Francisco
2 Based on PM peak hour percentage of 11.3% of daily trips, as listed in the *Guidelines*.
Source: Wilbur Smith Associates March 28, 1994.

Table 4.12-2
Daily and PM Peak Hour Trip Generation

Land Use	Size	Unit	Trip Rate	Total Person Trip Ends	Work Person Trip Ends	Non-Work Person Trip Ends
Office	678	K SQ. FT	15.21	10,312	3,712	6,600
	2,748	employees	3.51	9,645	3,472	6,173
	3,000	employees	3.51	10,530	3,791	6,739*
PM Peak Hour Person Trips						
	678	K SQ. FT.	1.48	1,003	833	171
	2,748	employees	0.34	934	775	159
	3,000	employees	0.34	1,020	847	173*

* Worst case scenario selected for traffic analysis purposes.
Source: Wilbur Smith Associates March 28, 1994.

Table 4.12-3
Person Trip Generation by Mode by Location
PM Peak Hour Vehicle Trips (Work Plus Non-Work)

Locations	Work Trips Vehicle Trip Ends	Non-Work Vehicle Trip Ends	Total Vehicle Trip Ends	In Vehicle Trip Ends	Out Vehicle Trip Ends
NE SF	6.2	0.2	6.4	0.4	6.0
NW SF	40.3	0.4	40.7	2.2	38.5
SE SF	22.4	1.0	23.4	1.6	21.7
SW SF	33.6	0.7	34.3	2.0	32.3
North Bay	32.4	2.8	35.2	3.0	32.2
East Bay	28.3	4.6	32.8	3.7	29.1
Peninsula	17.5	1.6	19.0	1.7	17.4
C-3	0.7	12.8	13.8	6.4	7.0
Total	181	24	205	21.1	184.3

Source: Wilbur Smith Associates March 28, 1994.

Table 4.12-4
Person Trip Generation by Mode by Location
PM Peak Hour Transit Person Trip Ends (Work Plus Non-Work)

Location	Total Person Trip Ends	Muni Person Trip Ends	Bart Person Trip Ends	Caltr Person Trip Ends	AC Person Trip Ends	Samtran Person Trip Ends	GG Person Trip Ends	Ferry Person Trip Ends	Charter Bus Person Tip Ends	Walk Person Trip Ends	Other Person Trip Ends
NE SF	78	36	1	0	0	0	0	0	0	41	1
NW SF	96	93	0	0	0	0	0	0	0	0	3
SE SF	43	23	13	0	0	0	0	0	0	0	6
SW SF	101	88	12	0	0	0	0	0	0	0	1
NORTH BAY	54	0	0	0	0	0	39	11	4	0	0
EAST BAY	187	0	131	0	52	0	0	2	2	0	0
PENINSULA	27	1	13	8	0	5	0	0	0	0	1
C-3	152	32	1	0	0	0	0	0	0	117	2
TOTAL	739	273	170	8	52	5	39	14	6	158	14
in	96	27	17	1	5	0	4	1	1	16	1
out	643	246	153	7	47	4	35	12	5	142	13

Source: Wilbur Smith Associates March 28, 1994.

According to the City of San Francisco Planning Department, these growth rates do not account for either the proposed Federal Building or the proposed State Building at 455 McAllister. Therefore, the traffic to be generated by the proposed State Building was added to the 2010 Base

Case traffic. The Oakland Federal Building observed trip generation rates were applied to the State building.

The State Building would generate 6,522 daily person-trips and 992 PM peak hour person-trips.[1] The mode splits as presented in Appendix 3 to the *Guidelines* were applied to the total peak hour person-trips of 992 to determine the number of vehicle trips and transit trips. The State Building would generate 200 vehicle-trips during the PM peak hour, 180 inbound and 20 outbound. It would also generate 551 transit trips (including ferry), 153 walk trips and 14 other trips (which include biking, taxi and drop-off).

Significance Thresholds

Intersection: In order to assess the impacts of the proposed project, and project alternatives, on surrounding intersections, project traffic was added to non-project traffic volumes on the adjacent road network. For purposes of this impact analysis, a significant traffic impact occurs when:

- The traffic generated by a project degrades peak period level-of-service from LOS A, B, C, or D (without project) to LOS E or F (with project).

Transit System: A significant impact to the Transit System would occur where project generated ridership, when added to existing or future ridership, exceeds available or planned system capacity. Capacity is defined as the total number of passengers the system of buses and light rail vehicles can carry within the policy load factors during the peak hours of operation.

Local Circulation: A significant impact to the local pedestrian, bicycle, automobile, and/or transit circulation would occur if the Level of Service deteriorates below "Congested" for pedestrian service levels (above 14 pedestrians per foot per minute), curbside travel lanes are narrowed or bike facilities are removed, or traffic speeds increase, or there is an increase in the intersection LOS to E or F from LOS A, B, C, or D.

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[1] The proposed state building project is a combination of new and existing building space. The new State Building is proposed to have 800,000 GSF. The new building will be consolidated with an existing State Building of 252,000 GSF (350 McAllister Street). Another existing state building (455 Golden Gate) with 384,000 GSF is to be demolished as part of the project. Thus, the project will result in 416,000 net new GSF of building (800,000 - 384,000 GSF). However 350 McAllister Street was unoccupied in 1994 at the time existing counts were taken. Therefore, from a traffic perspective, the full occupancy of the project would result in an increase of 668,000 GSF compared to 1994 existing conditions. This 668,000 GSF (416,000 + 252,000 GSF) was applied to the assumed trip generation rates.

4.12.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.12(A)-1 Project construction period would result in the generation of additional vehicle trips within the proximity of the site. This impact is considered less than significant. [LS]

Development of the proposed project would generate additional traffic volumes during the two to three year construction period. Traffic conditions in the project area during construction activities would be disrupted on a short-term basis, primarily due to the hauling of equipment and material on and off-site. Heavy construction equipment such as bulldozers and large loaders would be moved on site prior to construction and remain until completion of site preparation. Some minor disruption of traffic flows would occur at this time; however, the short duration of activity (estimated to be about 5 days) would minimize impacts. Impacts could also result from heavy-duty (25-ton) trucks moving excavated materials off-site during excavation of the subterranean parking garage area. However, truck trips would be limited to the hours of 9:00 AM to 3:30 PM, minimizing disruption to downtown area traffic including transit vehicles.

In addition, it may be necessary to enact lane and sidewalk closures during part of the demolition and construction phases of the new building. This would affect both pedestrian flow on the sidewalks as well as motor-vehicle and bicycle flow on Market Street, Tenth Street and Mission Street. Impacts on Market and Mission Streets would be minimized however by concentrating construction activity on Tenth Street to the extent possible. Finally, construction employees would be traveling to and from the site on a daily basis during the construction period.

2. Long-Term (Existing Plus Project)

Traffic Impacts

Impact 4.12(A)-2 Implementation of the project would not result in a reduction of Level of Service for any of the intersections studied. This is considered a less than significant impact. [LS]

A capacity analysis was performed at the study intersections to determine the traffic impacts of the proposed project. The results of the capacity analysis for the Existing plus Project scenario are presented in Table 4.12-5. The Existing plus Project volumes and the resulting levels of service are presented in Figure F-6 appearing in Appendix F. The level of service would not change at any of the study intersections with the addition of project traffic. All intersections with the addition of project traffic alone would operate at LOS D or better, acceptable conditions

in an urban environment. Therefore, the proposed project would not have significant impacts on the level of service at the intersections analyzed.

Table 4.12-5
Existing Plus Project Intersection Levels-of-Service-PM Peak Hour
Tenth and Market Alternative
New Federal Building EIS/EIR - San Francisco

	Intersection		Existing		Existing Plus Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS
1	Van Ness Ave.	Hayes Street	0.84	D	0.84	D
2	Van Ness Ave.	Fell Street	0.68	B	0.68	B
3	Van Ness Ave.	Market Street	0.71	C	0.71	C
4	S. Van Ness Ave/12th St.	Mission Street/Otis Street	0.84	D	0.84	D
5	Eleventh Street	Mission Street*	0.83	D	0.84	D
6	Tenth Street	Mission Street*	0.88	D	0.89	D
7	Ninth Street	Mission Street*	0.86	D	0.86	D
14	Ninth St./Larkin St.	Market St./Hayes St.	0.77	C	0.77	C
15	Tenth Street/Polk Street	Market Street/Fell Street	0.64	B	0.67	B

* Analysis assumes PM peak period land configuration, i.e. curbside land as diamond lane for buses and right-turns only. The diamond lane configuration reduces the capacity of these intersections. Thus, the volume-to-capacity (V/C) ratios at these intersections can be considered worst case, as not all vehicles comply with the diamond lane designation.

Source: Wilbur Smith Associates, April 1994.

Transit Impacts

Impact 4.12(A)-3 Implementation of the project would not result in an exceedance of transit capacity, with the exception of the East Bay BART line, which is currently operating at above BART's official design capacity. Capacity will increase when the Dublin line begins service. This is not considered a significant impact. [LS]

The peak hour load factors of the affected transit agencies were also analyzed to determine the transit impacts of the proposed project. As summarized in the previous Table 4.12-4, the project would generate a total of 273 MUNI trips, 246 outbound and 27 inbound. These would be distributed throughout the approximately 23 MUNI lines serving the site including MUNI metro, crosstown and downtown routes. Since most routes serving the project site are operating at less than the capacity load factors, these project trips can be absorbed with no significant impacts to MUNI operations or levels of service.

The project person-trips that would use regional carriers are also summarized in Table 4.12-4 above. The load factor for existing plus project trips was calculated and is depicted in Table

4.12-6. The load factors would not change significantly for any of the regional transit carriers. The load factors in all cases but one would remain less than the maximum load factor established by each carrier. The exception would be BART service to the East Bay, whose current load factor of 1.25 exceeds BART's policy of 1.15. Capacity will be increased to approximately 15,840 when the Dublin line goes into service in mid 1996. Project trips would increase the load factor to 1.26 assuming existing capacity. But given the planned capacity increase expected to take effect prior to completion of the project, the project's impact to the East Bay BART line is not considered a significant impact. Thus, once this improvement is implemented there would be sufficient capacity on BART to accommodate the additional BART patrons generated by the Federal Building.

Parking Impacts

Impact 4.12(A)-4 Parking demand for the project would exceed the amount of parking proposed on-site. The demand would be met by nearby parking garages. This is not considered a significant impact. [LS]

Parking demand was projected for the proposed project on the basis of the estimated vehicular traffic generated by the project. The project would create long term parking demand for about 305 spaces (including 34 carpool/vanpool spaces), and short term parking demand for 34 equivalent daily spaces, for a total parking demand of 339 daily spaces. The project provides no employee parking.

The project would include 114 interior parking spaces and 47 surface parking spaces for a total of 161 parking spaces. These onsite parking spaces are for official vehicles only and not for employees. In practice, however, they may replace the need for an employee to use a personal vehicle for official business and may thereby accommodate part of the estimated parking demand. The actual parking deficiency, therefore may be as low as 178 spaces (the 339 space deficiency less 161 official spaces).

Table 4.12-6
Regional Transit Characteristics - PM Peak Hour - Outbound
New Federal Building EIR/EIS - San Francisco

Carrier	Fare	Average Frequency (per line) (minutes)	Maximum Load Point	Aggregate Capacity Outbound (seated)	No. of Riders Outbound During PM Peak Hour	Date	Load Factor	Maximum Load Factor (policy)	Project Transit Trips Out-bound	Existing Plus Project Trips	Load Factor
AC[1]	$2.20	10 - 20	Transbay Terminal	10,305	6,285	May/92	0.61	1.00	47	6,332	0.61
Samtrans[2]	$1.50 - $2.00	30	City Limits	2,160	1,300	Mar/94	0.60	1.00	4	1,304	0.60
Caltrain[3]	$2.25 - $4.50	4-20	4th/ Townsend	4,090	2,623	Oct/92	0.64	None	7	2,635	0.64
BART E-B[4]	$1.55 - $2.80	3.3	Embarcadero	12,960	16,178	Mar/94	1.25	1.15	118	16,296	1.26
BART S-B[4]	$0.80 - $1.45	5.0	Civic Center	8,640	8,942	Mar/94	1.03	1.15	36	8,978	0.86
GG Bus[5]	$2.00 - $4.00	6-60	GG Bridge	3,276	2,293	Sep/93	0.70	1.00	35	2,328	0.71
Golden Gate Ferry[5]	L - $2.50	30-40	Ferry Building	1,064	658	Sep/93	0.62	1.00	4	662	0.62
	S - $4.00	70-80		388	156	Sep/93	0.40	1.00	4	160	0.41
RW Ferry[6]	T - $4.50	45		260	160	Sep/95	0.61	1.00	4	64	0.21
	V - $7.50	*		300	100	Mar/94	0.33	1.00	1	101	0.34
Walk	Not Applicable								142	Not Applicable	
Other[7]									13		

Load Factor = Riders/number of seats; L = Larkspur; S = Sausalito; T = Tiburon; V = Vallejo.

(1) Phone conversation with Don Larsen, AC Transit, 03/09/94.
(2) Phone conversation with Jim DeHart, Samtrans, 03/09/94.
(3) Phone conversation with Lisa Ives, Samtrans 04/04/94.
(4) Phone conversation with Dean Leonard, BART, 03/11/94, and 10/18/95.
(5) Ridership information provided by Al Zahradnik, Golden Gate Transit, 03/25/94.
(6) Phone conversation with Red and White Fleet 10/26/95.
(7) Includes bicycling, taxi, drop-off, work at home.
* One trip during the peak period.

Wilbur Smith Associates; October, 1995

There are approximately 645 parking spaces available in commercial lots open to the general public within 1/4 mile of the project site which could satisfy the unmet demand. The closest lots are the Fox Plaza facility (145 parking spaces available) and the facility at 66 Ninth Street (6 spaces available). Thus, public parking lots in the vicinity of the site could satisfy the demand not met by onsite parking space.

The proposed project would eliminate no parking spaces currently available to the general public. Occupancy in off-street public parking lots and garages within a 0.25-mile radius of the project's site may be expected to increase from the existing 68 percent to 77 percent as a result of the unmet parking demand generated by the project. There is not expected to be a net loss of on-street parking spaces since any new curb cuts would replace existing curb cuts that could then be converted to on-street parking spaces.

The proposed project is in the C-3 District, in which parking is not required for commercial uses. The City Planning Code allows accessory parking of up to seven percent of the gross floor area of the project. The 74,967 GSF of parking proposed by the project sponsor would exceed this seven percent allowance (678,571 GSF X 0.07 = 47,500 GSF allowable for accessory parking) (For projects in the C-3 districts, Conditional Use authorization is required for accessory parking in excess of seven percent). Required bicycle parking per section 155(j) of the San Francisco Planning Code is one bicycle parking space per each 20 off-street parking spaces provided. Given that 161 off-street spaces are proposed, 8 bicycle parking spaces are required. Bicycle parking should be provided as recommended in the mitigation section.

It is the policy of the City to encourage the use of alternative transportation modes. Maintaining a low level of parking availability is considered an appropriate way to advance this goal. For this reason as well, the proposed level of parking is not considered a significant impact.

Pedestrian/Bicycle Circulation Impacts

Impact 4.12(A)-5 Pedestrian and bicycle traffic would increase within areas surrounding the project site. These increases would be greatest during the PM peak hour period. Potential impacts are considered less than significant. [LS]

The location of the main pedestrian entrance has not been determined. The two options are to locate the entrance on Market Street, which is consistent with city policies of encouraging pedestrian and retail traffic on Market Street, or to locate the entrance on Tenth Street. The latter option could also include a secondary significant entrance on Market Street, as well.

Pedestrians would be circulating primarily to and from the BART entrance at Market and Eighth Street, to and from the MUNI Metro stop at Market and Van Ness and from the local MUNI, Golden Gate and SAMTRANS stops. There will also be considerable lunchtime pedestrian traffic on and about Tenth and Market to local food and retail establishments. During the PM

peak hour, the pedestrian flow in the crosswalks of Market/Van Ness and Market/Tenth Street would continue to be acceptable (flow regimen equal open or unimpeded) (see Table 4.12-7).

Table 4.12-7
Existing Plus Project Pedestrian Levels of Service - PM Peak Hour
New Federal Building EIR/EIS - San Francisco

Cross Walk	Effective Width/Percent Walk-Time	Existing			Existing Plus Project		
		Volume(1)	Flow Rate(2)	Flow Regimen	Volume(1)	Flow Rate(2)	Flow Regimen
10th Street/Market Street							
▸ North	26 ft./26%	240	2.36	Impeded	236	2.32	Impeded
▸ South	26 ft./26%	250	2.46	Impeded	379	3.74	Impeded
▸ East	30 ft./23%	80	0.77	Un-impeded	80	0.77	Un-impeded
▸ West	30 ft./23%	50	0.48	Open	82	0.79	Un-impeded
Van Ness Avenue/Market Street							
▸ North	35 ft./12%	175	2.78	Impeded	199	3.16	Impeded
▸ South	32 ft./12%	120	2.08	Impeded	119	2.06	Impeded
▸ East	34 ft./28%	100	0.70	Un-impeded	122	0.85	Un-impeded
▸ West	35 ft./28%	70	0.48	Open	71	0.48	Open

(1) = Peak 15-Minute Pedestrian Volumes
(2) = Pedestrians/Minute/Foot
Wilbur Smith Associates; October 1995

Since the level of service of pedestrian traffic would not be reduced, impacts are considered less than significant.

Increased bicycle traffic is anticipated to be primarily due to employees who choose bicycling as their commute mode. The routes that would be used by bicyclists would vary depending on the residence location of the individual bicycle commuter. If onsite bicycle parking is provided, bicyclists would enter the site from Tenth Street into the garage, as motor vehicles would. Neither of the streets fronting the site have bike lanes or are signed as bike routes. Due to the high vehicular traffic within the downtown area, as with any urban setting, potential safety conflicts could result to bicyclists. Potential impacts are considered adverse, but less than significant.

Freight Loading and Service Impacts

Impact 4.12(A)-6 **The average number of peak hour truck deliveries would be approximately six. Because the project design will accommodate required deliveries, the impact would be less than significant. [LS]**

Truck/freight generation and loading estimates were initially projected using the methodology from Appendix 7 of the *Guidelines*. City Planning Code requires one space per 100,000 square feet (Sections 152, 153). This methodology determines the number of truck trips per day based

on GSF of building area. According to the *Guidelines*, the project would be expected to generate 142 truck trips per day. However, research at a similar federal building (the Phillip Burton Federal Office Building at 450 Golden Gate Avenue) revealed that the average number of daily truck deliveries was approximately 40 (resulting in a peak-hour generation of six deliveries). The number of deliveries for the project is expected to be the same or less. According to the *Guidelines*, three spaces would be required. The peak hour of truck trip generation is expected to occur between 10 a.m. and 1 p.m. This could result in intermittent impacts to traffic operations on Tenth Street if yellow loading zones are not provided. This would also interfere with pedestrian circulation on the Tenth Street sidewalks.

Site Access and Circulation Impacts

Impact 4.12(A)-7 **The distribution of vehicular traffic onto Tenth Street may result in potential safety impacts, both to traffic on Tenth Street and to traffic entering and exiting the site. In addition, pedestrian and bicycle traffic within this area may be subject to safety conflicts. Potential impacts are considered adverse, but less than significant. [LS]**

The San Francisco Master Plan discourages vehicle access to Market Street. Thus, access to the Federal Building's parking facilities will most probably be from either Tenth Street or Mission Street. Access to and from the major freeway ramps would be easier from a Mission Street driveway. However, given the transit priority designation of Mission Street and given the shape of the site, it would be better for pedestrians and transit and more versatile to locate the driveway on Tenth Street. A Tenth Street access would also result in traffic impacts on the local street system. However, probably fewer impacts would occur at Tenth than access on Mission or Market. This is because all entering vehicles from U.S. 101 to I-80 would need to turn onto Market Street from 11th or 9th Streets in order to drive southbound on Tenth Street between Market and Mission. Within these areas, potential conflicts between traffic entering and exiting the site could occur resulting in potential safety impacts in the area of the garage and on Tenth Street. Furthermore, any potential pedestrian or other traffic within this area may be subject to safety impacts. However, they would be less with a Tenth Street driveway than with one on Mission or Market Streets. Design features such as signs and warning buzzers at the garage entry would minimize safety conflicts. None of the access alternatives would result in congested pedestrian service levels. Nor would any of the access alternatives remove bike facilities, narrow curbside travel lanes, or lead to increased traffic speeds.

Eighty percent of pedestrian traffic is estimated to come from the Market Street corridor (mostly those commuting by transit) and 20 percent from Tenth Street (mostly those employees who parked off-site). Placement of the primary pedestrian entrance on Market Street would encourage pedestrian and transit access to the site.

3. Cumulative

Traffic Impacts Year 2010

Impact 4.12(A)-8 **Traffic volumes for Tenth and Market Alternative in the year 2010 would not reduce the Level of Service for any of the intersections studied. However, the Mission/Tenth Streets intersection and the Market/Tenth/Fell/Polk Streets intersection's volume-to-capacity ratio would increase by three percentage points with the construction of the proposed State building and the proposed project but the LOS would remain LOS E. This amount of increase is not considered a significant impact. At Market/Tenth Streets, the LOS would be LOS C. This is not considered a significant impact. [LS]**

The traffic generated by the proposed project was added to the 2010 Base Case plus State Building traffic. An intersection capacity analysis of Year 2010 traffic volumes for all three future scenarios, 2010 Base Case, 2010 Base Case + State Building and 2010 Base Case + State Building + Project, was conducted and the results are summarized in Table 4.12-8. The turning movements at the study intersections for the 2010 Base Case plus State Building plus Project scenario are presented in Figure F-7 appearing in Appendix F.

In the 2010 Base Case, (without the project) two intersections would operate at LOS E.

- Mission/Tenth
- Mission/Ninth Street

Four intersections would operate at LOS D.

- Market at Ninth Street/Larkin
- Van Ness at Hayes
- Mission at South Van Ness
- Mission at Eleventh Street

Three intersections would operate at LOS C.

- Market at Van Ness
- Market/Tenth Street/Polk/Fell
- Van Ness Fell

Table 4.12-8
Year 2010 Intersection Levels-of-Service - PM Peak Hour
Tenth and Market Alternative

Intersection			2010 Base Case		2010 Base Case + State Building		2010 Base Case + State Building + Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS	V/C	LOS
1	Van Ness Avenue	Hayes Street	0.88	D	0.88	D	0.88	D
2	Van Ness Avenue	Fell Street	0.74	C	0.74	C	0.75	C
3	Van Ness Avenue	Market Street	0.79	C	0.79	C	0.79	C
4	S. Van Ness Ave/12th St.	Mission Street/Otis Street	0.90	D	0.90	D	0.90	D
5	Eleventh Street	Mission Street*	0.89	D	0.89	D	0.90	D
6	Tenth Street	Mission Street*	0.96	E	0.96	E	0.99	E
7	Ninth Street	Mission Street*	0.92	E	0.92	E	0.92	E
14	Ninth Street/Larkin Street	Market St./Hayes St.	0.86	D	0.86	D	0.86	D
15	Tenth Street/Polk Street	Market Street/Fell Street	0.72	C	0.72	C	0.75	C

* Analysis assumes PM peak period land configuration, i.e. curbside lane (Mission Street) as diamond lane for buses and right-turns only. The diamond lane configuration reduces the capacity of these intersections. Thus, the volume-to-capacity (V/C) ratios at these intersections can be considered worst case, as not all vehicles comply with the diamond land designation. (Note that east bound is signed but not painted in street lanes.)

Source: Wilbur Smith Associates, April 1994.

The two intersections that would operate at LOS E were analyzed assuming the PM peak hour lane configuration which designates the westbound curbside lane for buses and right turns only. This restriction substantially reduces the capacity of these intersections for through traffic. It does improve the flow for transit vehicles reducing transit travel times which encourages the use of transit. For comparison purposes, if both through lanes were available for through traffic during the PM peak hour, the intersection operation would improve from LOS E to LOS D (V/C ratio = 0.81) at Mission/Tenth Street and from LOS E to LOS C (V/C ratio = 0.73) at Mission/Ninth Street. Since the restriction is not universally obeyed, some through traffic does use the curbside lane. Thus, in reality, the effective V/C ratio is probably somewhere in between the two values for each intersection. Since Mission Street is a Transit Preferential Street, the diamond lane restrictions will remain and it is likely that enforcement will increase in the future.

With the addition of traffic generated by the proposed State Building, none of the V/C Ratios or LOS would change. Under the 2010 Base Case + State Building + Project scenario, project traffic would increase the V/C ratios by one to three percentage points at four intersections. However, the Level of Service would again remain the same. Thus, the project would not have any significant traffic impacts in Year 2010.

Transit Impacts 2010

Impact 4.12(A)-9 The Tenth and Market Alternative will increase PM peak hour outbound demand in the year 2010 by less than one percent. This is considered a less than significant impact. [LS]

Year 2010 transit demand was based on the percentage change noted in the *Mission Bay EIR* for 1985 levels to 2020 levels. The capacity levels were estimated by each operator in the *Mission Bay EIR* for Year 2000 to Year 2020.

PM peak hour project-generated transit trips would contribute less than one percent of the total PM peak hour outbound demand for each transit operator at Year 2010 transit ridership levels. The largest impact would be to MUNI (245 outbound trips) and East Bay-bound BART (about 120 outbound trips out of 130 total peak hour trips). The project would not have a significant impact on Year 2010 transit levels of service.

Table 4.12-9 shows the estimated Year 2010 demand for each transit agency by screenline[2] and the estimated project demand for transit by PM peak hour and period. It also shows the demand-to-capacity ratios and levels of service for each screenline. As with PM peak outbound demand, the project contribution to each screenline would also be less than one percent and have little effect on the Year 2010 level of service.

4. Recommended Measures

Although the project will have no significant impacts to traffic and circulation, the following measures could reduce impacts from this project. GSA has no authority to modify streets and highways in and around the City and County of San Francisco. The improvement measures recommended in this section, therefore, would have to be implemented by the City and County of San Francisco, or Caltrans, as appropriate.

Recommendations to Improve Existing Conditions

Adjusting the signal timing at Van Ness/Hayes Street to increase the time allocated to the northbound left-turn phase would improve the operation at this intersection as well as the intersection of Van Ness/Market. An increase of between 2-5 seconds in the northbound left-turn phase (by reducing the time allocated to the southbound through phase) would significantly reduce the queue at the northbound left-turn movement without adversely impacting the other movements at this intersection. Because this condition is an existing traffic service deficiency, this measure cannot be required as project mitigation. However, it would help reduce an

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[2] Screenline is a location for estimating commuters. Screenlines are distances away from commuting destination and look like concentric circles on a map.

existing traffic problem. Since Van Ness Avenue is State Highway 101 at this point, this would require coordination with and approval of Caltrans.

Table 4.12-9
Cumulative Outbound Transit Demand and Capacity at Screenlines Year 2010
New Federal Building EIS/EIR - San Francisco

Screenline	Transit Operator	Capacity	Demand	D/C	LOS
PM Peak Hour					
Northeast	MUNI	7,000	8,900	1.27	E
Northwest	MUNI	7,700	10,200	1.32	E
Southwest	MUNI	13,200	13,900	1.05	D
Southeast	MUNI	3,050	3,800	1.25	D
North Bay	Golden Gate				
	▸Bus	7,200	7,350	1.02	D
	▸Ferry	1,900	1,450	0.76	C
East Bay	AC Transit	9,700	12,400	1.28	E
	BART	18,000	27,700	1.54	F
South Bay	BART	9,000	7,900	0.88	C
	Caltrain	4,600	2,800	0.61	B
	SamTrans	3,700	2,350	0.64	B
PM Peak Period					
Northeast	MUNI	12,100	16,050	1.33	E
Northwest	MUNI	13,300	15,950	1.20	D
Southwest	MUNI	22,700	24,400	1.07	D
Southeast	MUNI	5,200	6,500	1.25	D
North Bay	Golden Gate				
	▸Bus	11,100	10,850	0.98	C
	▸Ferry	3,200	2,000	0.63	B
East Bay	AC Transit	14,700	18,400	1.25	D
	BART	30,900	47,700	1.54	F
South Bay	BART	18,000	13,300	0.74	B
	Caltrain	6,900	4,300	0.62	B
	SamTrans	5,100	2,800	0.55	B

D/C Demand/Capacity
Source: Table VI.E.20, Mission Bay EIR
Source: Wilbur Smith Associates, April, 1994.

General Design Recommendations

The following is a list of general recommendations that are applicable to all projects in the downtown area. They are not mitigation for project-specific impacts. Measures that would serve to decrease vehicle trip-ends and encourage alternate transportation modes are as follows:

- Provide interior bicycle parking for employees and visitors in the interior employee garage. This parking area should be monitored unless access to the garage is secure. Alternatively, allow building access for bicycles so bike commuters can park bikes within their specific

work areas. Interior bicycle parking can be facilitated by providing bicycle parking that hangs from the ceiling so that valuable floor space is preserved.

- The number of bicycle spaces provided should be between two and five percent of the projected number of employees. With a maximum building population of 3,000 employees, this would be between 60 and 150 spaces. One approach would be to initially provide 60 spaces and to retain the option of providing more spaces as demand indicates.

- The existing bicycle rack on Market Street in front of the Tenth and Market site, should be replaced with an improved design such as the Crank Case racks currently being used at 75 Hawthorne Street (where the EPA is located).

Tenth and Market Alternative Mitigation

To improve delivery and freight impacts, nine off-street spaces should be provided for truck deliveries to the project site. SF Planning Code requires spaces to be 35 feet long by 12 feet wide by 14 feet high except first space which can be 25 X 10 X 12 feet. Given the expected truck types to be onsite at once, three spaces with the former dimensions and six spaces with the latter dimensions are recommended. Although the remaining construction traffic and circulation impacts after the project is completed were considered less than significant, it is recommended that the following measures be implemented.

- Construction. Construction truck movements should be limited to 9:00 a.m. to 3:30 p.m. Unloading of equipment should be prohibited during the peak hours of 7:30 a.m. to 9:00 a.m. and 3:30 p.m. to 6:00 p.m. If lane closures are anticipated, the project sponsor should coordinate with relevant city agencies and with construction contractors for any nearby projects whose construction phasing would be concurrent with the proposed project. Materials storage should be maximized onsite, so as to limit the number of deliveries to the site. Truck access to the site should be provided from Tenth Street to minimize impacts on Market and Mission Streets. To mitigate pedestrian impacts during construction, continuous pedestrian walkways should be maintained if any sidewalks are encroached upon or closed during construction.

- Operation. Safety impacts could be reduced by placing warning devices at garage driveway(s) including lighted signs and noise-emitting devices to alert pedestrians that vehicles are exiting the facility. In addition, any proposed paving, landscaping or street furniture placed in the sidewalk area should minimize interference with pedestrian traffic.

- To improve traffic conditions by facilitating the use of alternative modes, the following should be considered:

  a) Provide transportation brokerage services to coordinate a transportation management program or participate in a network of transportation brokers.

b) Develop an in-house transportation demand management program including designation of a transportation services manager to help employees with alternative mode choices.

B. Seventh and Mission Alternative

1. Short-term

Impacts would be similar to the Tenth and Market Alternative. Construction activity should be concentrated on Seventh Street rather than Mission Street.

2. Long-term (Existing plus Project)

Traffic-Trip generation characteristics of the Seventh and Mission alternative site were assumed to be identical to those described for the Tenth and Market site. Access to the Seventh and Mission alternative site was assumed to be from Seventh Street. The addition of project traffic would not change any of the existing Levels of Service. The two intersections of Mission and 8th Streets and Mission and Sixth Streets would remain at LOS E and the other four intersections would operate at acceptable levels of service, LOS C or better. The existing and existing plus project intersection levels-of-service at PM peak hours are shown on Table 4.12-10. The existing plus project traffic volumes are depicted in Figure F-8 in Appendix F.

Parking. There is sufficient parking capacity (1019 spaces) at off-street lots within two-blocks of the project to accommodate the parking deficiency, even if no onsite parking were provided for employees. It is the policy of the City of San Francisco to encourage the use of alternative modes. Thus even a parking deficiency would not be considered a significant impact.

Bicycles/Pedestrians. Pedestrian circulation is expected to be heavy on Mission Street, as many transit patrons will come from the Mission Street corridor and on Seventh Street as many transit patrons will also use Market Street transit lines such as BART and MUNI Metro. Well designed and lighted entrances should be provided on both these streets. The non site-specific recommendations for the Tenth/Market alternative also apply to this alternative.

Table 4.12-10
Existing and Existing + Project Intersection Levels of Service - PM Peak Hour
Seventh and Mission Alternative Site
New Federal Building EIS/EIR - San Francisco

Intersection			Existing		Existing + Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS
8	Eighth Street	Mission Street*	0.94	E	0.94	E
9	Seventh Street	Mission Street*	0.74	C	0.74	C
10	Sixth Street	Mission Street*	0.92	E	0.93	E

Intersection			Existing		Existing + Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS
11	Taylor St./Sixth Street	Market Street/Golden Gate Avenue	0.56	A	0.56	A
12	Seventh Street/North Seventh Street	Market Street	0.56	A	0.56	A
13	Eighth Street/Hyde Street	Market Street/Grove Street	0.58	A	0.59	A

* Analysis assumes PM peak period and configuration, i.e. curbside lane as diamond lane for buses and right-turns only. The diamond lane configuration reduces the capacity of these intersections. Thus, the volume-to-capacity (V/C) ratios at these intersections can be considered worst case, as not all vehicles comply with the diamond lane designation.

Source: Wilbur Smith Associates, April 1994

3. Cumulative

Year 2010 volumes were developed using the same methodology as for the Tenth and Market site. Year 2010 scenario results are depicted in Table 4.12-11. In the 2010 Base Case scenario, two intersections would operate at LOS F compared to LOS E under Existing Conditions.

- Mission/Eighth
- Mission/Sixth

One intersection would operate at LOS D compared to LOS C under Existing Conditions.

- Mission/Seventh Street

The three Market Street intersections would operate at LOS B compared to LOS A under Existing Conditions. With the addition of State Building traffic, none of the intersection Levels of Service would change. When project traffic is added to 2010 Base Case plus State Building traffic, again, none of the intersections' levels of service would change.

These future traffic volumes are presented in Figure F-9 in Appendix F. Thus, the project at the Seventh and Mission alternative site would not have any significant traffic impacts.

Table 4.12-11
Year 2010 Intersection Levels of Service - PM Peak Hour
Seventh and Mission Alternative
New Federal Building EIS/EIR - San Francisco

Intersection			Base Case		Base Case + State Building		Base Case + State Building + Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS	V/C	LOS
8	Eighth Street	Mission Street*	1.09	F	1.10	F	1.11	F
9	Seventh Street	Mission Street*	0.84	D	0.84	D	0.84	D

Intersection			Base Case		Base Case + State Building		Base Case + State Building + Project	
	North-South Street	East-West Street	V/C	LOS	V/C	LOS	V/C	LOS
10	Sixth Street	Mission Street*	1.11	F	1.11	F	1.11	F
11	Taylor St./Sixth St.	Market St./Golden Gate Avenue	0.63	B	0.64	B	0.64	B
12	Seventh St./North Seventh St.	Market Street	0.62	B	0.62	B	0.63	B
13	Eighth Street/Hyde Street	Market St./Grove St.	0.65	B	0.67	B	0.68	B

* Analysis assumes PM peak period and configuration, i.e. curbside lane as diamond lane for buses and right-turns only. The diamond lane configuration reduces the capacity of these intersections. Thus, the volume-to-capacity (V/C) ratios at these intersection can be considered worst case, as not all vehicles comply with the diamond lane designation.

Source: Wilbur Smith Associates, April 1994

4. Recommended Measures

Although no significant impacts have been identified, implementation of the recommended improvement measures recommended for the Tenth and Market Alternative would reduce the impacts of this alternative.

C. Purchase Alternative

1. Short-term

Under this alternative, short-term impacts would be limited to activities associated with the renovation of an existing building for use by federal agencies and the moving of furniture, records, and supplies. Traffic impacts would be less than significant.

2. Long-Term

The purchase of an existing building would replace current occupants with Federal employees. The impacts associated with this change would, in all likelihood, be similar to the conditions as they existed prior to the federal purchase. Impacts at any given building will be different than those of another building. However, the replacement of current occupants with Federal workers should not change the net impacts to the area. Therefore, there should be no significant long-term impacts with the purchase of a building by the Federal government. Federal agencies would be housed in office space in a location somewhere in the Central Business District or near the Civic Center.

3. Cumulative

Cumulative impacts would be similar to those experienced under the Tenth and Market Alternative. No significant cumulative impacts would result from this alternative.

4. Mitigation Measures

Mitigation and improvement measures recommended under the Tenth and Market Alternative also apply to the purchase alternative also apply to the purchase alternative.

D. Lease Alternative

1. Short-term

Under this alternative, short-term impacts would be limited to activities associated with the renovation of one or more lease spaces for use by federal agencies and the moving of furniture, records, and supplies. Because there would be no change in the traffic conditions at an existing building, all traffic impacts would be less than significant.

2. Long-Term

Impacts associated with the lease alternative would probably be less than the construction of a new federal building depending upon the location(s). Federal agencies would be distributed in office spaces around the Central Business District or near the Civic Center. It is assumed that federal employees would be replacing other employees in the leased space. Impacts associated with this alternative would be less than significant.

3. Cumulative

Cumulative impacts would be less than those experienced under the Tenth and Market Alternative. No significant cumulative impacts would result from this alternative.

4. Mitigation Measures

Because there are no short-term, long-term or cumulative impacts associated with this alternative, no mitigation measures are recommended.

E. No Action Alternative

Because no construction of a new building would be undertaken, implementation would not result in any short-term or long-term traffic and circulation impacts.

4.13 HAZARDOUS SUBSTANCES

4.13.1 Impact Assessment Methodology and Significance Thresholds

An impact is considered significant if one or more of the following conditions would result from implementation of the Tenth and Market Alternative or the Seventh and Mission Alternative:

A substantial risk of:

- unacceptable human exposure to hazardous materials based on applied regulatory standards; or
- unacceptable environmental degradation based on federal, state and local thresholds and maximum contaminant levels;

Due to either of the following:

- construction excavation and/or demolition activities on the site; or
- use of the site for a new federal office building.

4.13.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

Impact 4.13 (A)-1 **Construction would require the demolition of existing structures which could possibly contain asbestos materials, thereby potentially exposing construction workers and the public to associated hazards. This is considered to be a significant but mitigable impact. [SM]**

The demolition of older buildings could expose construction workers and the public to carcinogenic asbestos fibers. Asbestos can be present in a variety of forms in structures. In some cases, the asbestos is considered "friable", meaning that it can become airborne and could potentially be inhaled. Loose insulation, ceiling panels and brittle plaster could be sources of friable asbestos. Non-friable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. In most cases, asbestos is encapsulated in another material. However, any activity that involves manipulation of these materials (i.e., cutting, grinding or drilling) could release hazardous airborne asbestos fibers.

Impact 4.13 (A)-2 **Construction would require the demolition of existing structures which could possibly contain lead pipes or lead-based paint. Such a condition would require remediation. This impact is considered significant but mitigable. [SM]**

The demolition of older buildings could expose construction workers and the public to concentrations of lead in excess of established standards. Lead is toxic and can cause neurological damage. This is considered to be a significant impact. Lead has often been used in manufacturing of metal pipes, fittings, and paint. Ingestion is the primary mode of transport into a person's system, however, lead could also be inhaled during cutting, sanding, or dismantling of lead or brass (which contains lead) pipes or objects covered with lead-based paint.

Impact 4.13 (A)-3 **Current on-site uses have resulted in on-site storage of potentially hazardous substances. If not properly handled and disposed of, these could have an adverse impact. This impact is considered potentially significant but mitigable. [SM]**

Impact 4.13 (A)-4 **The Phase I report identified potential soil and ground water contamination onsite and the potential for contamination from offsite sources. If not handled, removed from the site or remediated on site, or disposed of properly, there could be adverse impacts from exposure of construction workers and the public to contaminated materials. This impact is considered potentially significant but mitigable. [SM]**

2. Long-Term

Operation of the building will not lead to unacceptable human exposure to hazardous materials or unacceptable environmental degradation. Contemplated uses of the building do not involve significant use of hazardous substances.

3. Cumulative

Hazardous substances are handled on a project-by-project basis. Therefore, a discussion of cumulative impacts is not applicable.

4. Mitigation Measures

Implementation of the following mitigation measures would reduce short-term impacts to less than significant.

4.13(A)-1 a) If asbestos fibers are suspected or identified in existing building materials, sampling should be performed prior to any demolition activities to determine whether or not they are present.

b) If asbestos containing materials are identified, demolition activities affecting the asbestos containing materials should be conducted by a licensed asbestos abatement contractor with properly trained personnel, in accordance with all applicable state, federal and local regulations.

4.13(A)-2 a) If lead-based materials are suspected or identified in existing building materials, sampling should be performed prior to any demolition activities to determine whether or not they are present.

b) If lead-based materials are identified, demolition activities affecting the lead containing materials should be conducted by a qualified contractor with properly trained personnel, to ensure that lead concentrations are not elevated in on-site soils. Possible measures include dust control, encapsulation of paint surfaces prior to demolition, and removal of affected soils after demolition.

4.13 (A)-3 Any potentially hazardous substances stored on-site such as are now stored in seven 55-gallon drums and five additional drums should be handled, removed and disposed of in accordance with local, state and federal regulations.

4.13(A)-4 Soil samples should be collected and analyzed in accordance with the recommendations of the Phase I report, as follows:

a) A total of six sampling locations are proposed to characterize subsurface conditions on the site (see Figure 12 and Table 4 in Phase I report). The sampling locations are proposed to evaluate potential releases from current or past sources of hazardous materials, and to determine the quality of fill for the purpose of determining health risks to construction workers, soil management options for excavated soils, and remediation requirements. The soil samples should be collected in accordance with State-approved methods and under the supervision of a certified professional.

b) Two soil samples should be collected from each soil boring. The samples should be collected at a depth of two feet below ground surface and at the soil/ground water interface. Table 4 in the Phase I report presents the recommended chemical analyses for each sample. Upon receipt of analytical results, the field activities should be documented and the results evaluated to determine either remedial actions or additional activities and

recommendations for disposal options for drummed soil cuttings and steam-cleaning rinsate should be provided.

c) Ground water samples should be collected from the on-site monitoring wells. The samples should be analyzed for volatile and extractable petroleum hydrocarbons (EPA Method 8015M), volatile organics (EPA Method 8020), and those additional compounds identified during the soil sampling activity, if any.

d) All hazardous materials on-site should be removed and disposed of in accordance with applicable laws and regulations.

e) Vent lines associated with the underground gasoline storage tanks on the adjacent site should be relocated to an off-site location.

f) In the event that soils or ground water affected by chemicals are removed from the project site, the project sponsor should ensure that a Hazardous Materials Management Plan is prepared and implemented for planned hazardous materials handling, removal and disposal activities. The Hazardous Materials Management Plan should include a description of any additional sampling that would be performed for further site characterization, planned hazardous materials handling methods, removal and disposal procedures. The Hazardous Materials Management Plan would require that all hazardous materials handling, removal and disposal be undertaken in accordance with applicable federal hazardous materials laws and regulations.

g) If dewatering were required for construction, the project sponsor would ensure that the Hazardous Materials Management Plan would include procedures for analyzing ground water for chemicals, in accordance with applicable NPDES (and the City's Industrial Waste Ordinance, as applicable) regulations, if water were to be discharged into the City's sewer system. Disposal of ground water from dewatering activities would be conducted in accordance with applicable federal regulations. The Regional Water Quality Control Board would be notified if water quality impacts are identified, in accordance with applicable regulations.

h) In the event that soils affected by chemicals are to be left in place on the project site, the project sponsor would carry out any studies and remediation in coordination with the California Department of Toxic Substances Control or the Regional Water Quality Control Board.

B. Seventh and Mission Alternative

1. Short-Term

Construction impacts are similar as those discussed for the Tenth and Market alternative.

Impact 4.13(B)-1 **If ground water contamination is present beneath the site at concentrations which are known to be present approximately 500 feet to the northeast as indicated by the Phase I report, excavations in excess of 15 to 25 feet, in association with future development at the site, will require dewatering of contaminated ground water. This impact is considered significant but mitigable. [SM]**

A ground water investigation in the Site vicinity indicated that ground water near the Site (crossgradient) contained concentrations of petroleum hydrocarbons (as diesel and oil). Three volatile organic compounds (PCE, TCE, and cis-1,2-DCE) were detected at levels above the Maximum Contaminant Level. As the source of this contamination is unknown, it is unknown whether ground water at the Site may also contain these contaminants.

The study did not ascertain whether the quality of ground water underlying the Site could have been affected by releases of metals, petroleum hydrocarbons, and/or organic compounds at the Site and vicinity. If SFRA should wish to ascertain the quality of ground water underlying the Site, a ground water monitoring well could be installed in the downgradient (southeast) corner of the Site and sampled for metals, petroleum hydrocarbons, and organic compounds.

2. Long-Term

Operation of the building will not lead to unacceptable human exposure to hazardous materials or unacceptable environmental degradation. Contemplated uses of the building do not involve significant use of hazardous substances.

3. Cumulative

Hazardous substance impacts are handled on a project-by-project basis, therefore, a discussion of cumulative impacts is not applicable.

4. Mitigation Measures

Implementation of the following measure would reduce impacts.

4.13(B)-1 If soil and ground water contamination is present, the potential impact could be reduced to less than significant concentration through the implementation of a soil and ground water remediation program. Depending on the areal extent and depth

of soil contamination, the impacted soil could be addressed either in situ or by excavation and treatment/disposal. Impacted ground water could be remediated utilizing in situ or ground water extraction and aboveground treatment technologies.

a) In the event that soils or ground water affected by chemicals are removed from the project site, the project sponsor should ensure that a Hazardous Materials Management Plan is prepared and implemented for planned hazardous materials handling, removal and disposal activities. The Hazardous Materials Management Plan should include a description of any additional sampling that would be performed for further site characterization, planned hazardous materials handling methods, removal and disposal procedures. The Hazardous Materials Management Plan would require that all hazardous materials handling, removal and disposal be undertaken in accordance with applicable federal hazardous materials laws and regulations.

b) If dewatering were required for construction, the project sponsor would ensure that the Hazardous Materials Management Plan would include procedures for analyzing ground water for chemicals, in accordance with applicable NPDES (and the City's Industrial Waste Ordinance, as applicable) regulations, if water were to be discharged into the City's sewer system. Disposal of ground water from dewatering activities would be conducted in accordance with applicable federal regulations. The Regional Water Quality Control Board would be notified if water quality impacts are identified, in accordance with applicable regulations.

c) In the event that soils affected by chemicals are to be left in place on the project site, the project sponsor would carry out any studies and remediation in coordination with the California Department of Toxic Substances Control or the Regional Water Quality Control Board.

C. Purchase Alternative

No short-term, long-term or cumulative impacts would result from the purchase of an existing building for use by federal agencies, unless extensive remodeling was undertaken. Federal and state regulations governing the control of hazardous substances would mitigate any potential impacts. Therefore, no mitigation measures are required.

D. Lease Alternative

No short-term, long-term or cumulative impacts would result from the lease of existing office building space for use by federal agencies, unless extensive remodeling was undertaken. Federal and state regulations governing the control of hazardous substances would mitigate any potential impacts. Therefore, no mitigation measures are required.

E. No Action Alternative

Continued use of the existing leased and federally-owned space in the San Francisco Central Business District would not result in any short-term, long-term or cumulative impacts. Therefore, no mitigation measures are required.

4.14 WIND

This section addresses modeled wind conditions in the vicinity of the alternative sites. The information was taken from the "Pedestrian-Level Wind-Tunnel Study of the Proposed Federal Building Site in San Francisco California," prepared by Dr. Bruce R. White (January, 1995) which is included in Appendix H.

4.14.1 Impact Assessment Methodology and Significance Thresholds

Methodology

Severe wind conditions are known to exist in some areas of San Francisco including the project vicinity. The proposed project is a Federal Office Building and as such is not specifically subject to the City Planning Code for wind impacts. For the purposes of this analysis, however, the project was examined using the criteria established for the Downtown Commercial (C-3) Districts in one of which the project site is located. A "one inch = 50 feet" scaled model of the area surrounding the proposed building for several blocks in all directions was provided by Environmental Science Associates of San Francisco. Wind-tunnel tests using the model were conducted for the existing setting (including all approved development) and various configurations of the project in the existing setting, including a maximum building configuration on the site. These configurations were tested for both of the alternative sites. Following completion of this initial modeling, several refined configurations were evaluated for both alternative sites. Because of the severity of winds, including existing winds, encountered with the Tenth and Market site, additional testing was conducted as described in Section 4.14.2.A.

The test points chosen for the wind tunnel analysis are locations associated with pedestrian activities (sidewalks, and doorways) and several are known windy positions (building corners, doorways and open areas). Some points are relatively close to one another. These may represent two sides of a building corner or other possible wind obstruction. Refer to Figures 4.14-2 and 4.14-4 for the location of test points.

Significance Thresholds

Hazardous winds under the Planning Code include winds exceeding the hazard criterion wind speed. Winds at or above the hazard criteria windspeed pose real safety risks for pedestrians.

The City Planning Code Section 148, Reduction of Ground-Level Wind Current in C-3 (Downtown commercial) Districts, requires buildings to be shaped so as not to cause ground-level wind currents to exceed 11 mph in areas of substantial pedestrian use, and 7 mph in public seating areas, more than 10 percent (876 hours per year) of the time year round between 7 a.m. and 6 p. m. The wind ordinance is defined in terms of equivalent wind speed. This term

denotes an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence (White, 1992).[1]

The Code also requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph for a single full hour of the year, or 0.011416 percent of the time. The City and County of San Francisco Planning Code Section 148 specifically states "No exception shall be granted and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year." A discussion of the ordinance and methodology is contained in Appendix H. The 7 mph and 11 mph comfort criteria are based on wind speeds that are measured for one minute and averaged. In contrast, the 26 mph hazard criteria is based on winds that are measured for one hour and averaged. When stated for the same averaging time basis as the comfort criteria winds (i.e., one minute averages), the 26 mph hazard criterion speed is a one-minute average of 36 mph (White, 1992). The adjusted value of 36 mph equivalent wind speed is used in this EIR to evaluate compliance with the hazard (safety) criterion.

As stated above, winds at or above the hazard criterion wind speeds pose safety risks for pedestrians. In the wind study for this EIS/EIR, as in the Code, the percentage and number of hours that the hazard criterion is exceeded is the more important part of the result. The hazardous wind speeds identified in this section are above the levels at which pedestrians would be at risk of upset and possible injury and the number of hours of exposure to such a risk is the most important evaluation factor. The comfort and hazard criterion described above were used to evaluate impacts associated with several building configurations at the two alternative sites. The hazard criterion provides the threshold of significance for impact analysis. Any increase in wind speeds that would cause equivalent wind speeds to reach or exceed the hazard criterion for a single hour of the year was determined to create a significant impact. The project was also considered to have a significant impact if it would cause a substantial increase in the number of persons regularly exposed to hazardous wind conditions.

4.14.2 Impact Analysis

A. Tenth and Market Alternative

The area around the Tenth and Market site is known for its windy conditions. Initial testing of two building configurations showed dramatic increases in hazard exceedances at a number of locations. A number of additional tests were performed using different building configurations in an attempt to find a building shape that (at the least) did not exacerbate existing hazardous conditions. In all, four series of wind tunnel tests were conducted for this site using a number of different building configurations. The results of the testing are discussed in Appendix H.

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[1] Because all test locations for the two alternative sites correspond to pedestrian areas (and not sitting areas) only the 11 mph comfort criterion is discussed.

To avoid confusion due to the number of configurations tested, the following outlines the contents of each test series:

- First series. Two building configurations developed by GSA were subjected to wind tunnel testing. The hazard criterion was exceeded with both in many of the tested locations. These configurations are referred to as Option A and Option B. Option A represents the proposed initial site utilization with a 315-foot tall structure occupying half the site (the northern half) and fronting Market Street. Option B is an alternative site utilization occupying the entire site with a structure 100 feet tall fronting on Mission and 140 feet tall fronting on Market Street. Due to the number and duration of hazard criterion exceedances, Options A and B will not be further discussed in this report.

- Second series. When the first two configurations (options A and B) resulted in considerably increased hazardous conditions, a limited testing program (using a single wind direction) was conducted on eleven additional configurations provided by the architectural firm of Kaplan, McLaughlin Diaz (KMD). Of these, only one configuration, Option C, which varies in height from 90 feet to 315 feet and utilizes the entire site, showed the possibility of not increasing existing hazardous wind conditions. Due to the number and duration of hazard criterion exceedances, the other ten configurations are not discussed further in this report.

- Third series. Option C was subjected to the full wind tunnel testing procedure. Option C was found to produce new hazardous criterion exceedances. Option C is not discussed further is this report.

- Fourth series. Option D (a fourth conceptual design also designed by KMD), with a maximum building height of 315 feet, was the last configuration tested. Option D was unique amongst all other tested configuration in that it resulted in wind patterns very close to the existing conditions. Option D would cause an increase of one hour per year in the existing hazard criterion exceedance at location #1 (at Fox Plaza) and would reduce the existing exceedance at location #8 (Tenth and Market, at the site) by approximately 80 hours. Overall, this would be an improvement in area wind conditions. Option D, by a considerable margin, had the fewest exceedances of all the configurations tested. Nevertheless, the site and vicinity would remain very windy.

In summary, all of the building configurations studied at the Tenth and Market alternative site resulted in wind conditions in violation of the hazard criterion. Because it would result in the fewest hazard exceedances, Option D is the only configuration discussed further in this report. All tested options are reported in Appendix H, Wind Analysis Methodology/Wind Tunnel Study.

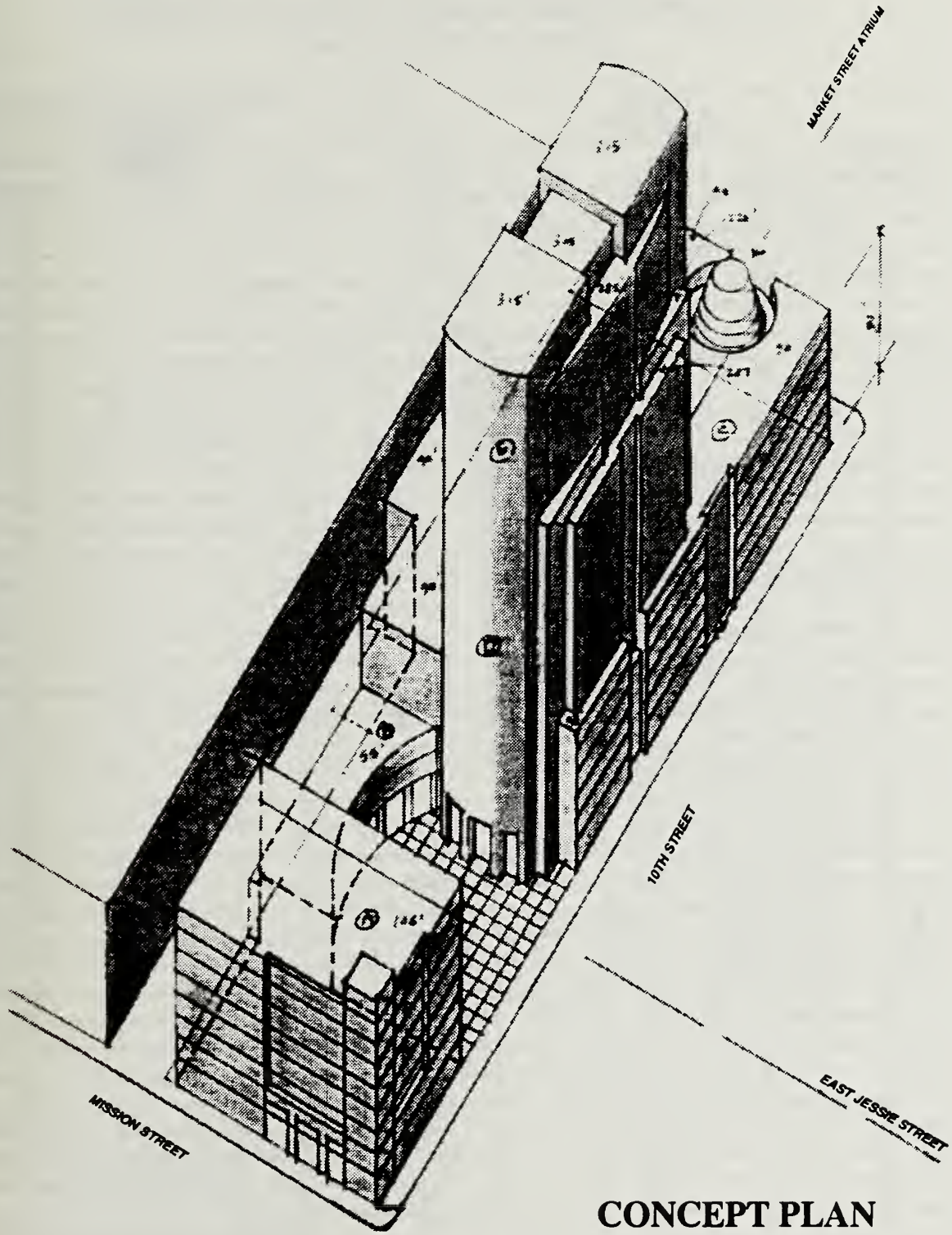
Thirty-eight test locations were studied for Option D for each of the four prevailing wind directions: northwesterly, west-northwesterly, westerly, and southwesterly (west-southwesterly winds are accounted for in the analysis of southwesterly winds). These wind conditions are the most common in San Francisco, and are therefore, the most representative for evaluation of the proposed building. All measurements were taken at the same series of surface points around the building site for all wind directions included in the testing.

All of the 38 test locations correspond to sidewalk and public plazas, which are representative of outdoor pedestrian areas; therefore, the 11 mph comfort criterion is an appropriate reference point to assess the general state of the "wind environment" for the configuration tested. However, the hazard criteria is of far greater concern in the project area and is the threshold of significance for the project. The comfort criterion results will be discussed first and then the hazard criterion results will be addressed.

Throughout the following discussion the wind speeds reported refer to the equivalent wind speeds that would be exceeded 10 percent of the time for the pedestrian comfort criterion, and one hour per year when referring to the hazard criterion. Table 4.14-1 uses the 36 mph (10 percent of the time exceeded) value for the hazard criterion.

Option D

A diagram of Option D is shown in Figure 4.14-1. Option D was unique amongst all other tested configurations in that it resulted in wind patterns very close to the existing conditions. Table 4.14-1 summarizes hazard criteria exceedances for Option D. This option would cause an increase of one hour per year (from 61 to 62 hours) over the existing hazard criterion exceedance at location #1 at Fox Plaza and would reduce the existing exceedance at location #8 at the corner of the site at Tenth and Market by approximately 80 hours per year (from 209 to 131 hours). Overall, as noted however, this design would cause about 300 hours of hazard criterion exceedance at the location points measured compared to about 800 hours at existing conditions, as shown in Table 4.14-1, a reduction of exceedance by about 500 hours overall. This would be an improvement in area wind conditions.



CONCEPT PLAN

Source: Kaplan McLaughlin Diaz (Modified by Fugro)

SAN FRANCISCO FEDERAL BUILDING
OPTION D

SAN FRANCISCO FEDERAL BUILDING
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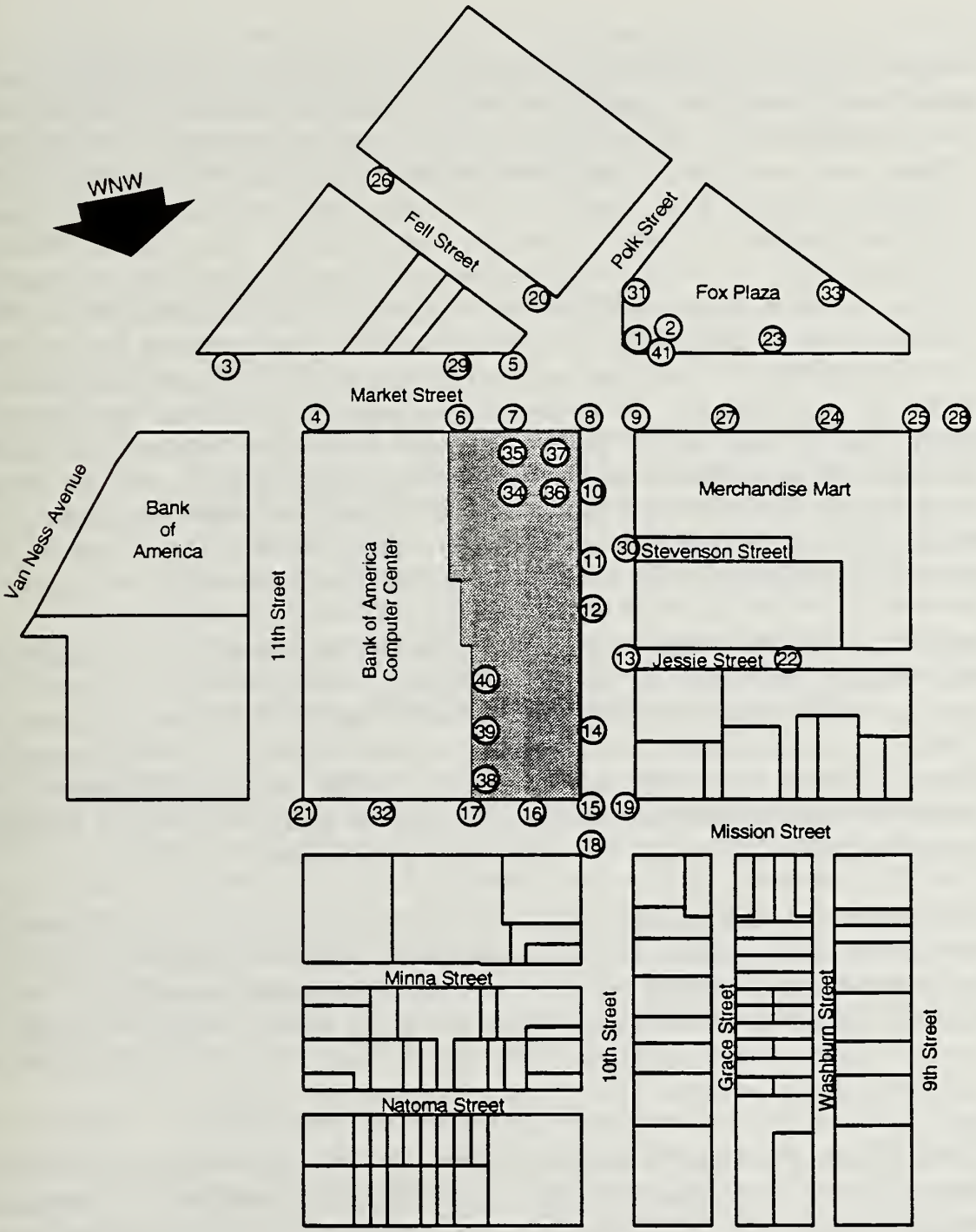
Figure 4.14-1

Table 4.14-1. Summary of One-Hour-Per-Year Wind Speed and Hours Exceeded for Existing and Option D Tenth and Market (Hazard)

Existing Tested 5/1/94					SF Federal Building - Option D Tested 12/22/94		
Test(1) Location No.	Crit.(2)	Speed	HAZ Exceed	Hours Exceeded	Test Location No.	HAZ Exceed	Hours Exceeded
1	36	47	X	61	1	X	62
2	36	39	X	2	2		.7
3	36	33		.2	3		0
4	36	29		0	4		0
5	36	31		0	5		0
6	36	31		0	6		0
7	36	41		0	7		0
8	36	58	X	209	8	X	131
9	36	51	X	111	9	X	21
10	36	41	X	16	10		.01
11	36	40	X	4	11		0
12	36	31		0	12		0
13	36	44	X	31	13		.01
14	36	31		0	14		0
15	36	32		0	15		0
16	36	27		0	16		0
17	36	38		0	17		0
18	36	31		0	18		0
19	36	38	X	4	19		0
20	36	39	X	18	20		.01
21	36	31		0	21		0
22	36	16		0	22		0
23	36	34		.5	23		.04
24	36	28		0	24		0
25	36	39	X	5	25		.8
26	36	50	X	198	26	X	66
27	36	35		.7	27		0
28	36	26		0	28		0
29	36	23		0	29		0
30	36	48	X	64	30	X	2
31	36	41	X	22	31	X	4
32	36	25		0	32		0
33	36	47	X	53	33	X	13
42	36	N/A (3)		N/A	42		0
43	36	N/A		N/A	43		0
44	36	N/A		N/A	44		0
45	36	N/A		N/A	45		0
46	36	N/A		N/A	46		0

(1) Refer to Figure 4.14-2 for test point locations.
(2) The 36 mph is a time-adjusted equivalent to the ordinance's 26 mph level.
(3) These points are located where buildings currently exist.
Source: Bruce White



LEGEND

(8) Point of Wind Measurement
Numbers Correspond to Table 4.14-1

Prevailing Wind Direction (WNW)

0' 200'

SAN FRANCISCO FEDERAL BUILDING
Environmental Impact Statement/Report

SURFACE POINT LOCATIONS FOR MEASURMENT IN THE WIND TUNNEL TEST - 10th AND MARKET ALTERNATIVE

Figure 4.14-2

Comfort Criterion[2]. The overall Option D wind environment would be approximately the same as the existing setting. In general, wind speeds around the base of the Option D building and along Fell Street from Van Ness Street to the Fox Tower plaza would be slightly less than the existing case; specifically, locations #1, #6, #11, #14, #17, #19, #20, #26 and #33 would experience decreased wind speeds of 3 to 5 mph, while other comparable locations would experience changes of 2 mph or less (see Figure 4.14-2). One location would come into compliance with the 11 mph pedestrian-comfort criterion (location #10 at the base of the new building on Tenth Street would have an 11 mph wind speed as compared to 19 mph in the existing setting). There would be a slight reduction in wind speeds on Fell and Tenth Streets and slight increases of wind speeds on Market Street near Ninth Street (locations #24 and #25). Apparently, the position of the Option D tower would alter the wind flow between the three major structures (the AAA building on Fell Street at Van Ness Street and the Fox Plaza tower and Bank of America Data Center building near the project site) to create the change of wind flow from Tenth Street to Market Street. It is noted that these modifications in the wind environment would be minor; the Option D wind environment would not be substantially improved and the site vicinity would continue to be considered a very windy area.

As compared to the existing setting, wind speeds would decrease at 20 locations, increase at three locations and remain the same at ten locations. Wind speeds around Option D's sidewalk areas on Market, Tenth and Mission Street would range from a low of eight mph (on Mission Street) to a high of 24 mph which would occur at the Market-Tenth Streets intersection. Wind speeds on Market Street would range from 11 to 24 mph. Overall, 26 of the total 38 locations included in the wind-tunnel test would experience wind speeds exceeding the 11 mph pedestrian comfort criterion as compared to 29 mph existing conditions.

Hazard Criterion. The Option D design would slightly improve the wind environment at the site as compared to the existing setting except for the Fox Plaza tower plaza area (location #1) which would experience an increase in the number of hours of hazard exceedance. It would have 62 hours of exceedance as compared to 61 hours in the existing setting, worsening the hazard conditions at the Fox Tower plaza by one hour per year. Thus, the configuration results in a significant impact in that the hours of the exceedance are increased.

Overall, seven of the total 38 measured locations would exceed the 26 mph criterion for more than one hour (average speed) per year hazard criterion, as compared to 14 exceedances in the existing setting. This would represent a net decrease of seven hazard exceedance locations. Effectively, the Option D setting would shelter many of the existing hazardous conditions location points in the proximity of the Option D building reducing them below the hazard criterion (i.e. locations #2, #10, #11, #13, #19, #20 and #25).

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[2] Data for the comfort criterion testing is contained in Appendix H.

Option D would create a total of about 300 hours of hazard exceedance at the 38 locations measured as compared to a total of about 800 hours in the existing setting. This represents a decrease of 500 hours of hazard exceedance, or a 62 percent reduction, as compared to the existing setting. Substantial decreases in hours exceeding the hazard criterion would be registered at locations #8, #9, #10, #13, #26, #30, #31 and #33.

1. Short-Term

The project would not result in any short-term wind impacts.

2. Long-Term

Impact 4.14(A)-1 **Seven of the 33 measured locations for Option D would experience wind speeds in excess of 26 mph hazard criterion for more than one hour (average speed) per year compared to 14 exceedances with existing conditions. This constitutes an overall reduction of seven in the number of hazard exceedances and a reduction of 500 hours in number of hours the criterion is exceeded for the area. However, one measured location did show a new increase of one hour in the amount of time of exceedance of the hazard criterion. For this reason, Option D would have a significant unavoidable impact. [SU]**

Option D would exceed the significance threshold based on the wind ordinance due to the one hour increase in the hours the hazardous criterion would be exceeded on the Fox Tower plaza (location #1). Although the increase at this location (about one additional hour per year) would be relatively small compared to the other exceedances observed (e.g. locations #8, #9, and #26), the ordinance states "no building shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year." Overall, as noted however, this design would cause about 300 hours of hazard criterion exceedance at the location points measured compared to about 800 hours at existing conditions, as shown in Table 4.14-1, a reduction of exceedance by about 500 hours overall.

Impact 4.14(A)-2 **Although this building configuration would create an overall improvement in existing wind conditions, the project would introduce approximately 3,000 federal employees and members of the public to hazardous wind conditions. This is considered a significant unavoidable impact. [SU]**

The project site is characterized by wind conditions that are unusually severe compared to other areas of downtown San Francisco. The project would have the effect of bringing to this site nearly 3,000 employees that otherwise would have worked elsewhere. Additionally, more members of the public who are visiting federal offices would be subjected to the windy conditions at the site.

This impact would be offset to some degree by the fact that the building would reduce the overall wind hazards currently experienced by employees, residents, and others pedestrians in the project vicinity. Pedestrians near the site are currently subject to wind speeds in excess of the hazard level for about 800 hours per year. With the project, these individuals would be subject to such wind speeds for 300 hours per year, or 500 fewer hours per year. However, 300 hours of exceedance per year would still regularly subject these individuals to hazardous wind conditions. Therefore, this impact is considered significant.

3. Cumulative

The wind tunnel model included all structures existing and approved (though not yet built) in the area for all options. This is the functional equivalent of cumulative analysis.

4. Mitigation

Mitigation measures to reduce wind impacts fall into two categories: building design modifications and structural appurtenances.

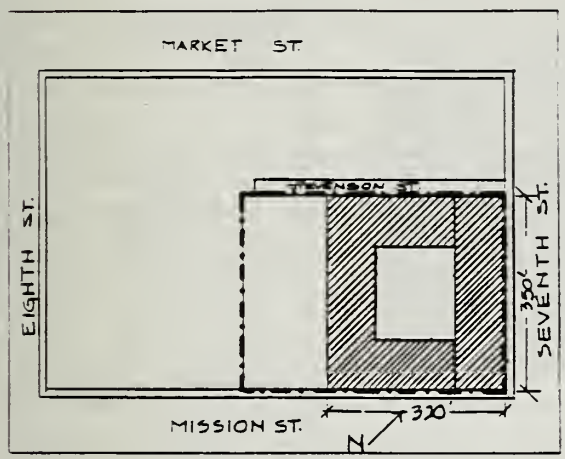
4.14(A)-1 The first type was incorporated into the selection of alternative massing for the wind tunnel testing. No configuration of the designs tested eliminated all significant hazardous conditions, but Option D was found to be a superior alternative.

4.14(A)-2 Building appurtenances should include pedestrian level wind blocks or dampers in a vertical or horizontal configuration. These measures should be included into the final design of the building to the extent feasible. Because many of the hazardous locations are located on or across the street from the site on non-federal property, it may not be feasible for the federal government to implement these measures at all appropriate locations.

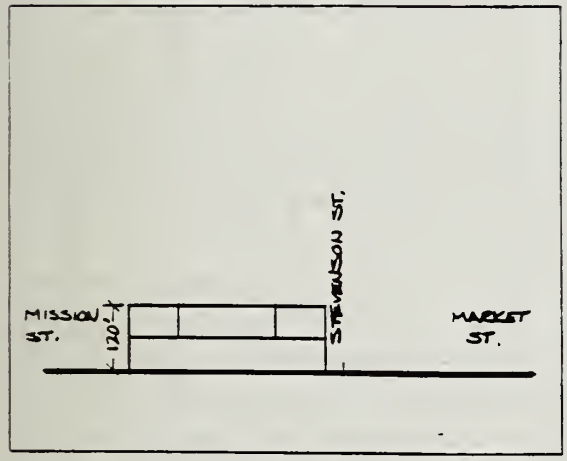
B. Seventh and Mission Alternative

Two building massings were tested in the wind tunnel for the Seventh and Mission alternative site. They are shown on Figure 4.14-3. Both Options 1 and 2 are considered viable configurations and will be discussed in this section. The locations of the measurement points and the results of the wind-tunnel study for compliance with the wind hazard criterion are summarized in Table 4.14-2 and Figure 4.14-4.

CONCEPT PLAN OPTION 1



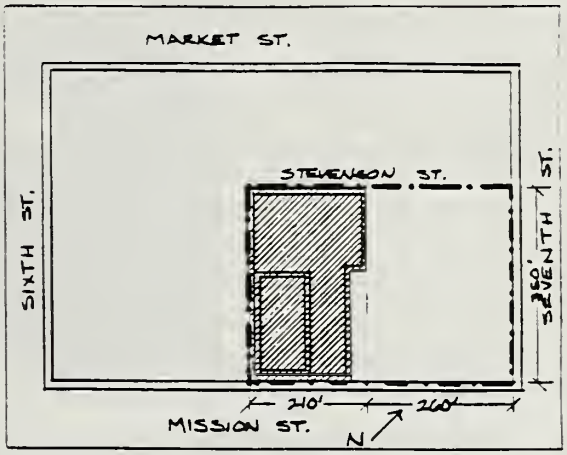
SITE PLAN



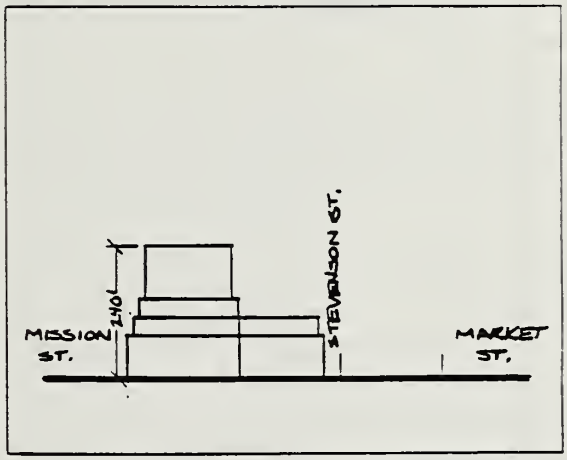
SEVENTH STREET ELEVATION

Seventh & Mission Site

CONCEPT PLAN OPTION 2



SITE PLAN

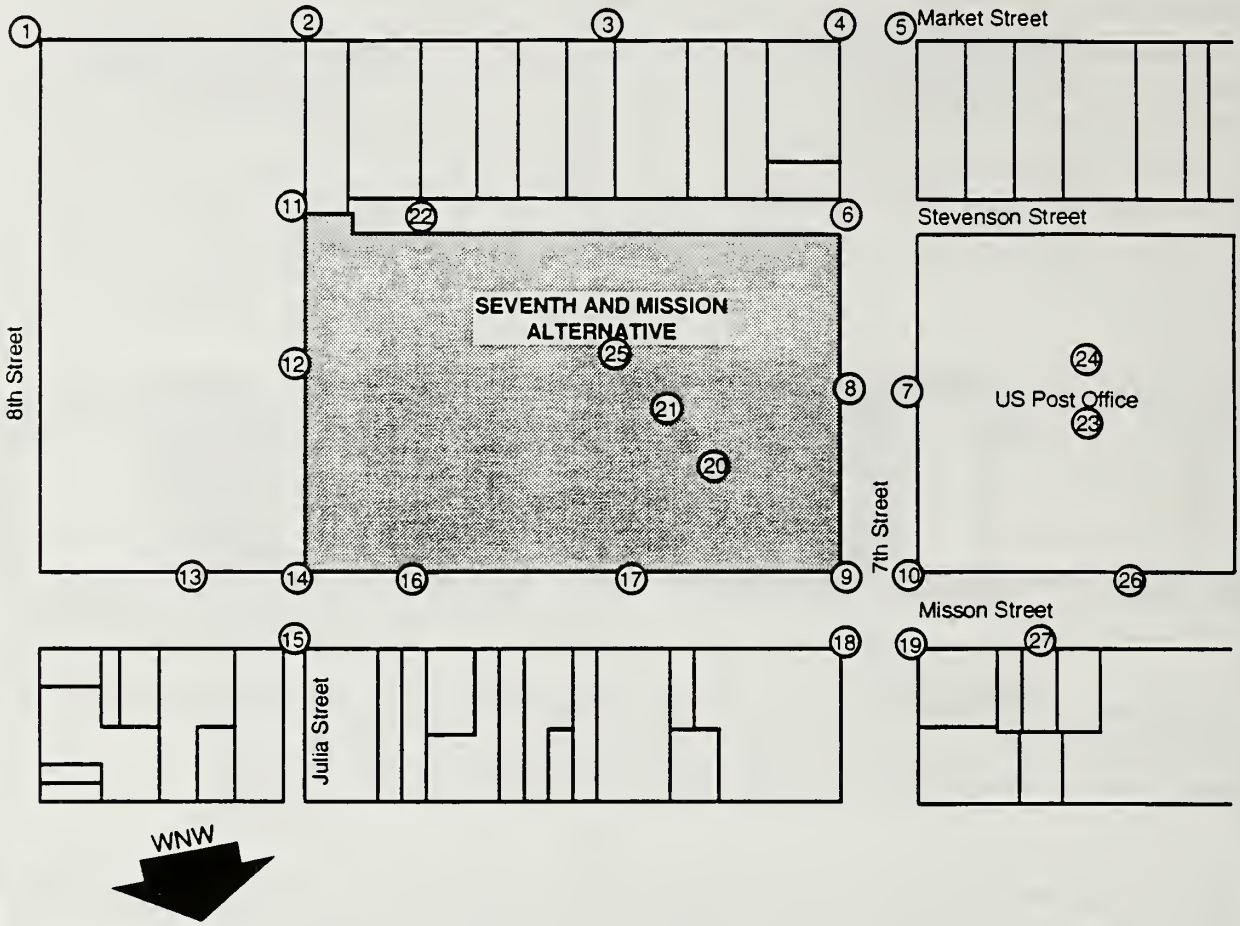


SEVENTH STREET ELEVATION

Seventh & Mission Site

SAN FRANCISCO FEDERAL BUILDING OPTIONS I AND II

Figure 4.14-3



LEGEND

(8) Point of Wind Measurement
Numbers Correspond to Table 4.14-4

Prevailing Wind Direction (WNW)

0' 250'

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Environmental Impact Statement/Report

SURFACE POINT LOCATIONS FOR MEASUREMENT IN THE WIND TUNNEL TEST SEVENTH AND MISSION ALTERNATIVE
Figure 4.14-4

Table 4.14-2
Summary of One-Hour-Per-Year Wind Speed and Hours Exceeded for Existing Option 1 and 2, Seventh and Mission (Hazard)

Existing 5/1/94					SF Federal Building - Option 1 5/2/94					SF Federal Building - Option 2 5/2/94				
Test Location No.(1)	Crit.(2)	Speed	HAZ Exceed	Hours Exceeded	Test Location No.(1)	Speed	HAZ Exceed	diff.	% Excess	Test Location No.(1)	Speed	HAZ Exceed	diff.	Hours Exceeded
1	36	38		*0*	1	30		-	0	1	29		-	0
2	36	24		*0*	2	20		-	0	2	20		-	0
3	36	25		*0*	3	52		+	0	3	49		+	0
4	36	30		*0*	4	29		-	0	4	30			0
5	36	30		*0*	5	22		-	0	5	48		+	0
6	36	24		*0*	6	31		+	0	6	25		+	0
7	36	32		*.008*	7	35		+	*.6*	7	31		-	0
8	36	22		*0*	8	19		-	0	8	24		+	0
9	36	34		*.3*	9	24		-	0	9	37	X	+	*2.6*
10	36	34		*.1*	10	25		-	0	10	37	X	+	*1.9*
11	36	24		*0*	11	17		-	0	11	28		+	0
12	36	37	X	*2.17*	12	35		-	*.7*	12	28		-	0
13	36	24		*0*	13	25		+	0	13	26		+	0
14	36	31		*0*	14	34		+	*.2*	14	39	X	+	*3.2*
15	36	32		*.008*	15	31		-	0	15	36		+	*.6*
16	36	31		*0*	16	31			0	16	34		+	*.6*
17	36	32		*.008*	17	22		-	0	17	36		+	*.8*
18	36	37	X	*1.2*	18	24		-	0	18	36	X		*1.2*
19	36	30		*0*	19	21		-	0	19	26		-	0
20	36	39	X	*5.6*	20	21		-	0	20	35		-	*.7*
21	36	31		*0*	21	24		-	0	21	31			0
22	36	22		*0*	22	34		+	*.3*	22	28		+	0
23	36	15		*0*	23	27		+	0	23	16			0
24	36	16		*0*	24	21		+	0	24	13		-	0
25	36	29		*0*	25	18		-	0	25	33		+	*.06*
26	36	24		*0*	26	21		-	0	26	25			0
27	36	28		*0*	27	24		-	0	27	33		+	0

(1) Refer to Figure 4.14-4 for test point locations.

(2) The 36 mph is a time-adjusted equivalent to the ordinance's 26 mph level.

Option 1

Comfort Criterion. The overall Option 1 wind environment would be improved compared to that of the existing setting, with wind speeds decreasing more than 2 mph at 10 measured locations (#9, #10, #17-#21, and #25-#27), while increases two locations (#6 and #22) would cause new comfort-criterion exceedances. An improvement in the wind environment would occur at the Seventh and Mission Streets intersection. All measured locations at the intersection, and to the north along Seventh Street and to the east along Mission Street, would be reduced. This is compared to the existing setting with all locations (#8-#10, #18, #19, #26 and #27), currently in exceedance of the criterion, coming into compliance in Option 1. Wind speeds along Market Street would remain effectively unchanged. The courtyard area of the Option 1 building would experience wind speeds ranging from 8 to 11 mph, which would be acceptable for pedestrian walking, but not for seating activities. (The San Francisco "Wind Ordinance" specifies a 7-mph criterion for outdoor seating activities.)

Overall, as compared with the existing setting, wind speeds would decrease at 15 locations, increase at five locations, and remain the same at six locations. The presence of the Option 1 structure would effectively shelter the Seventh and Mission Streets intersection from predominantly prevailing West to Northwest wind, while ground-level wind speeds north of the structure (locations #6, #7 and #22) would experience wind speed increases.

Wind conditions at this location would be substantially better than at the Tenth and Market site vicinity.

Hazard Criterion. No exceedances of the hazard criterion would occur for the locations tested for the Option 1 building. Thus, Option 1 would produce no significant wind impacts.

Option 2

Comfort Criterion[3]. The overall Option 2 wind environment would be less desirable compared to that of the existing setting, with wind speeds increasing more than 2 mph at four locations (#11, #14, #15 and #22), while decreases would be experienced at three locations (#12, #16 and #23). Three new exceedances would occur (locations #8, #22 and #24), while one location (#23) inside the courtyard area of the Federal Courthouse east of Seventh Street would come into compliance of the 11-mph comfort criterion. Wind speeds on Seventh Street near the Option 2 building would remain about the same, within 2 mph, and wind speeds on Market Street would remain the same. Wind speeds on Mission Street would remain about the same, except at the southside intersection with Julia Street, where both sides of Mission Street would increase to 19

[3] Comfort criterion information is contained in Appendix H, page 33.

and 21 mph as compared to 15 mph in the existing setting. Overall, 22 of the 27 total test locations would experience wind speeds exceeding the 11 mph pedestrian comfort criterion.

Overall, as compared with the existing setting, wind speeds would increase at 11 locations, decrease at nine locations and remain the same at seven locations. The presence of the Option 2 structure would place a relatively taller building than the surrounding existing structures and would create increases in wind speeds around the southwestern corner of the structure thus increasing wind speeds on Mission Street.

Hazard Criterion. The presence of the Option 2 building would bring locations #12 and #20 into compliance with the hazard criterion; however, its presence also would cause three new exceedances to occur on Mission Street (location #14 at the southwestern base corner of the Option 2 building) and at the Seventh and Mission Streets intersection (locations #9 and #10). The exceedances would be: location #14 - 3.3 hours; location #9 - 2.6 hours; and location #10 - 1.9 hours. Additionally, location #18 would remain in exceedance of the hazard criterion at about 1.2 hours.

1. Short-Term

The project would not result in any short-term wind impacts.

2. Long-Term

Impact 4.14(B)-1 **No exceedances of the hazard criterion would occur under Option 1, but four of the 27 measured locations for Option 2 would experience wind speeds in excess of the 26 mph hazard criterion for more than one hour (average) speed per year (3 of which would be new exceedances). Although the total number of hours of exceedances under Option 2 would be the same as the existing setting, this impact is considered significant. [SU]**

While the hours of hazard criterion exceedance would remain the same under Option 2 (about nine hours), the locations would shift, some improving, others worsening. Because the alternative would cause some new exceedances of the hazard criterion, the impact is considered significant.

Impact 4.14(B)-2 **The Option 2 alternative would introduce approximately 3,000 federal employees and other members of the public to wind conditions that would exceed hazard criteria approximately nine hours per year. This impact is considered less than significant [LS].**

Implementation of the Seventh and Mission alternative would have the effect of bringing to this site nearly 3,000 employees that otherwise would have worked elsewhere. Members of the public visiting federal offices would also be subject to wind conditions at the site. However, wind conditions at the Seventh and Mission site would be far less severe than at the Tenth and Market site, which would experience approximately 300 hours per year of hazard criteria exceedances. No hazard criteria exceedances at the Seventh and Mission Site would occur at all under Option 1, and would occur under Option 2 for only nine hours per year. Under neither option would persons be regularly subject to hazardous wind conditions. Therefore, this impact is considered less than significant.

3. Cumulative

The wind tunnel model included all structures existing and permitted (though not yet built) in the area. This is the functional equivalent of cumulative analysis.

4. Mitigation Measures

Mitigation measures to reduce wind impacts fall into two categories: building design modifications and structural appurtenances. The following mitigation is recommended to reduce wind impacts to the extent that is feasible.

4.14(B)-1 Building appurtenances should include pedestrian level wind blocks or dampers in a vertical or horizontal configuration. These measures should be incorporated into the final design of the building. Many of the hazardous locations are located on or across the street from the site on non-federal property, and it may not be feasible for the federal government to implement these measures at all appropriate locations. Even with offsite mitigation however, some hazardous conditions are likely to remain.

C. Purchase Alternative

The purchase alternative would involve an existing structure. No additional wind impacts would be created with this alternative. However, the location of the building would be important. By locating in a less windy section of the City, the employees might not be subjected to the higher winds, especially those at the Tenth and Market alternative site.

D. Lease Alternative

The lease option alternative would be a pre-existing structure. Therefore, no additional wind impacts would be created by the project.

E. No Action Alternative

Implementation of the No Action Alternative would not result in the construction of a new building. Therefore, there would be no change in the City's physical configuration and no new wind impacts would be created.

4.15 ARCHAEOLOGICAL RESOURCES

4.15.1 Impact Methodology and Significance Thresholds

Department of Interior regulations, as specified in 36 CFR 60, National Register of Historic Places, present the criteria to evaluate properties eligible for listing in the National Register under Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f).. These standards are appropriate criteria applicable to all properties, whether currently determined eligible or not. The criteria are formulated to provide for a wide diversity of resources, and are as follows:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) that are associated with the lives of persons significant in our past; or

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

The State of California's criteria for identifying significant archaeological and historical resources are set forth in Appendix K and Supplementary Document J of the State CEQA Guidelines. An "important archaeological resource," as defined in the Guidelines, is one which:

1. Is associated with an event or person of

   A. Recognized significance in California or American history, or

   B. Recognized scientific importance in prehistory;

2. Can provide information which is of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;

3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;

4. Is at least 100 years old and possesses substantial stratigraphic integrity; or

5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

When an archaeological resource has been found to be important in terms of one or more of these criteria, a mitigation plan must be prepared. Conversely, if an archaeological resource is deemed not to be important, both the resource and the effect on it should be noted, but need not be considered further under the CEQA process.

In cases such as the proposed federal office building project, where both the CEQA and NRHP evaluation criteria apply, federal standards prevail. Historic properties assessed as NRHP-eligible are also considered "important," and procedures for managing these properties under 36 CFR 800 satisfy the CEQA Guidelines, as well.

4.15.2 Impact Analysis

A detailed cultural resources study, including an inventory of the resources present, is included as Appendix E. The following impact analysis summarizes the findings of that study.

A. Tenth and Market Alternative

1. Short-Term

Impact 4.15(A)-1 Construction activities for the proposed federal office building could damage or disturb potential onsite archaeological resources. This impact is considered significant but mitigable. [SM]

It is not known whether significant archaeological resources exist onsite. However, as discussed in Section 3.15, archival research suggests, although it does not confirm, that potentially significant subsurface cultural resources from the Prehistoric/Protohistoric Period, Gold Rush era and Later 19th Century Period may exist at one or more locations within the confines of the project area. If such resources are present, activities such as excavation, pile-driving, trenching for foundations, pipe/cable installation, and landscaping would have the potential to cause damage or disturbance. Impacts could be mitigated through implementation of an archaeological testing program.

2. Long-Term

Impact 4.15(A)-2 Operation of the proposed building would not affect cultural resources. Long-term impacts are therefore considered less than significant. [LS]

As long as archaeological resources are not destroyed during construction, the proposed federal office building would preserve such resources in situ. Consequently, no long-term cultural resource impacts are anticipated.

3. Cumulative

As long as no archaeological resources are damaged during construction of the proposed federal office building, the building would preserve such resources in situ. Thus, project implementation would not contribute to any cumulative impacts to archaeological resources.

4. Mitigation Measures

The following mitigation measures would reduce the short-term impacts to archaeological resources to a less than significant level.

4.15(A)-1 A program of archaeological testing and evaluation should be conducted on the project site to determine the presence/absence of any prehistoric/protohistoric and/or historic period cultural resources. This effort shall be coordinated in consultation with representatives of the Ohlone Indian Community of the Bay Area.

If subsurface cultural resources are identified, a second principal objective of the testing program should be to ascertain the age, areal parameters, cultural characteristics, stratigraphic integrity, and historical associations of the materials encountered. Finally, the program would need to include assessment of the significance of those subsurface cultural deposits identified onsite.

- Given the location and depth of excavation proposed, and the potential likelihood that archaeological resources would be encountered on the project site, GSA should assure that the services of an archaeologist are retained. The archaeologist would carry out a pre-excavation testing program to better determine the probability of finding cultural and historical remains. The testing program would use a series of mechanical, exploratory borings or trenches and /or other testing methods determined by the archaeologist to be appropriate.

- If, after testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological

resources, the archaeologist would submit a written report to the GSA and the San Francisco Environmental Review Officer (ERO). If the archaeologist determines that further investigation or precautions are necessary, he/she shall consult with SFRA, GSA and ERO. Subsequently GSA, in consultation with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP), shall determine what additional procedures are necessary to minimize potential effects on archaeological resources.

- GSA should assure that these additional mitigation measures would be implemented in consultation with SHPO and ACHI and might include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to GSA SHPO and ACHP. During the monitoring program, GSA would designate one individual on site as his/her representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources should they be encountered.

- Should evidence of cultural resources of potential significance be found during the monitoring program, the archaeologist would immediately notify GSA . Any activities which the archaeologist, and GSA, in consultation with SHPO and ACHP, determine could damage such cultural resources would be halted. Ground disturbing activities which might damage cultural resources would be suspended for a total maximum of four weeks over the course of construction.

- After notifying GSA and ERO, the archaeologist would prepare a written report to be submitted first and directly to GSA, SHPO and ACHP . The report would contain an assessment of the potential significance of the find and recommendations for what measures should be implemented to minimize potential effects on archaeological resources. Based on this report, GSA, in consultation with SHPO and ACHP, would recommend specific additional mitigation measure to be implemented. These additional mitigation measures might include a site security program, additional on-site investigations by the archaeologist, and/or documentation, preservation, and recovery of cultural material.

- Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any archaeological testing, exploration and/or recovery program was conducted.

- Copies of all draft reports prepared according to this mitigation measure would be sent for review first and directly to GSA, in consultation with SHPO and ACHP. Copies of the final report would be sent to the San Francisco Landmarks Preservation Advisory Board, the California Archaeological Site Survey Northwest Information center. GSA, SHPO and ACHP shall receive three copies of the final archaeological report.

B. Seventh and Mission Alternative

Short-term, long-term, and cumulative impacts associated with the implementation of the project at the alternative site are the same as those of the Tenth and Market Alternative. In addition, Mitigation Measure 4.15(A)-1 would apply to the Seventh and Mission Alternative site.

C. Purchase Alternative

Purchase of an existing building for use by federal agencies would not have any short-term, long-term, or cumulative impact upon archaeological resources because no earth moving would be likely to occur. No mitigation would be required.

D. Lease Alternative

Leasing existing office space would not have any short-term, long-term, or cumulative impact upon archaeological resources because the action is to lease space. No earth movement would occur, therefore no subsurface resources would be affected. No mitigation would be required.

E. No Action Alternative

Continued occupancy of leased space in the San Francisco Central Business District would have no short-term, long-term, or cumulative impact upon archaeological resources because no construction would occur and no subsurface resources would be impacted. No mitigation would be required.

4.16 SHADOW

4.16.1 Impact Assessment Methodology and Significance Thresholds

This section assesses the possible shadow impacts of the two proposed Federal building alternatives and sites. Shadow analysis in this section was prepared by Environmental Science Associates (June, 1995) based on a review of the Proposition K Report for Two Proposed SF Federal Building Sites. The Tenth and Market Alternative and the Seventh and Mission Alternative as well as the blocks surrounding them were reviewed for shadow restrictions of the Sunlight Ordinance, Proposition K (Sunlight Ordinance, Section 295 of the Planning Code).

The City Planning and Recreation and Park Commissions adopted shadow criteria for all 15 parks in the Greater Downtown Area in February 1989. These criteria set an Absolute Cumulative Limit for new shadow for each protected open space; and set forth qualitative criteria for allowable new shadow. All of the allowable limits for the Civic Center Plaza is used by the New Main Library and the Courthouse buildings. Therefore, no new shadowing would be allowed for Civic Center Plaza. An impact is considered significant if it would violate the sunlight ordinance or any of the City Planning and Recreation and Park Commission shadow criteria.

4.16.2 Impact Analysis

A. Tenth and Market Alternative

1. Short-Term

The project would not result in any short-term shadow impacts.

2. Long-Term

Impact 4.16 (A)-1 **No new shadow from the 315 foot alternative at the Tenth and Market site would affect the War Memorial open space, nor would the shadow ever reach either the Civic Center Plaza, the Fulton Street Mall or the UN Plaza. [LS]**

All properties of concern are located to the north of the site. The War Memorial open space is north and west of the site, so shadows would point toward that space in the morning. The Civic Center Plaza is due north of the site; therefore, shadows from the site would reach toward the Plaza around noontime. The Fulton Street Mall and UN Plaza are north and east of the site, so shadows would point in that direction in early afternoon.

The maximum height of the proposed tower portion of the structure at Tenth and Market Streets is about 315 feet above the street level. The maximum range of the shadow from a 315 foot

tall structure on a flat, level plane would be less than 2,044 feet, the distance that a shadow would be cast on December 21st at both one hour after sunrise and one hour before sunset. The top elevation for the building was taken as 369 feet, based on a ground elevation of 44 feet, SF Datum.

The general shadow trace is illustrated in Figure 4.16-1. The farthest north that the shadow could reach would be the trace on December 21st. It is sufficient to determine only that the shadow trace would not reach these open spaces on December 21st. Once that is demonstrated, there is no other possibility that they would be shadowed at any other time of the year.

War Memorial Open Space. The shadow from the site would cross and reach beyond the War Memorial open space at one hour after sunrise, 8:22 a.m. on December 21st, when the sun's bearing angle would be 50°45' East of South. At that time, that area of the War Memorial open space already would be shaded by the Opera House itself. Over the next half hour or so, the tip of the building's shadow would move south and east, but still within the shadow of the Opera House. The first opportunity for the shadow of the building to reach the War Memorial open space would be about 9:07 a.m. when the sun reached a bearing angle of less than 42°30' East of South. By that time, however, the shadow length would have decreased substantially, and would reach only to the southeast corner of the Opera House building at Grove Street and Van Ness Avenue. Thus, the building would cause no new shadow on the War Memorial open space.

Civic Center Plaza, Fulton Street Mall and UN Plaza. By Noon on December 21st the shadow would fall at the northern side of Hayes Street, far short of the Civic Center Plaza, and by 1:30 p.m. would reach the northern sidewalk at the corner of Market Street and Larkin Street. Subsequent afternoon shadow on December 21st would be within Market Street or to the south of Market Street. The shadow from the building would not reach the Civic Center Plaza, the Fulton Street Mall, or the UN Plaza.

Implementation of the proposed structure at the Tenth and Market Alternative site would be in conformance with Section 295 and therefore, shadow impacts would be considered less than significant.

3. Cumulative

The assessment of project impacts assumes cumulative shadow impacts.

4. Mitigation Measures

No mitigation measures are required.

SHADOW FAN
TENTH AND MARKET ALTERNATIVE

Figure 4.16-1

B. Seventh and Mission Alternative

1. Short-Term

The project would not result in any short-term shadow impacts.

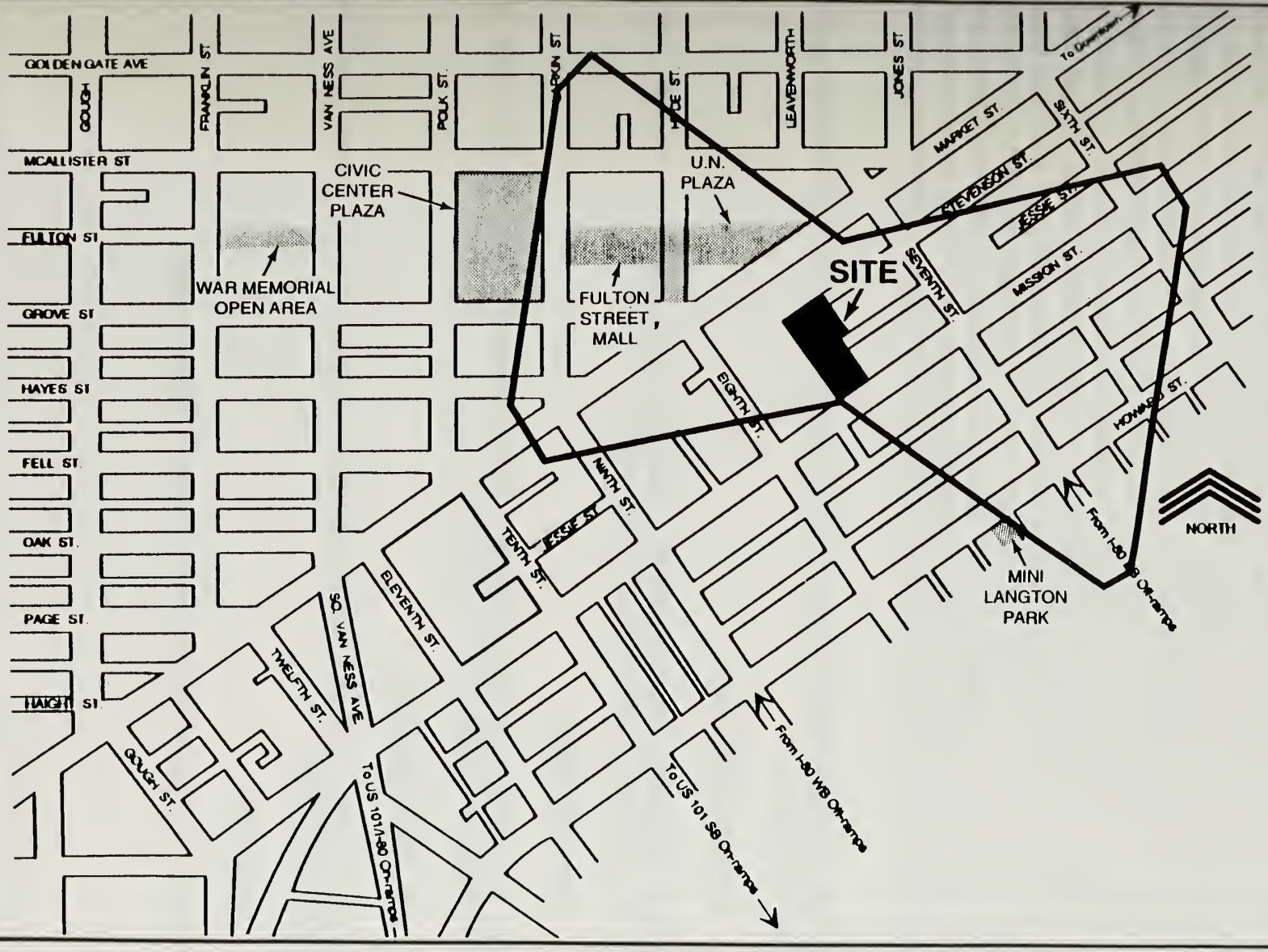
2. Long-Term

Impact 4.16 (B)-1 **No new shadow from the 240 foot alternative at the Seventh and Mission site would affect the Civic Center Plaza and would never reach Mini Langton Park. Some new shadow would affect the UN Plaza and Fulton Street in the mornings in late Fall and early Winter, but these spaces are not protected under the Sunlight Ordinance. [LS]**

Open spaces of concern with regard to this site are the Fulton Street Mall, the UN Plaza, and Mini Langton Park (see Figure 4.16-2).

Mini Langton Park. On June 21st, the extreme range of the bearing angle at one hour before sunset would be 112°10' West of South. That bearing angle would cause the shadow from the building to cross Assessor's Block 3730 near the Mini Langton Park, but would not cross that park itself. Thus, there would be no new shadow cast on the Mini Langton Park.

Civic Center Plaza. During the month of December, January and through most of February (as well as in October and November) the early morning shadow would be too far north and too short to reach the Civic Center Plaza. By February 21st the shadow of the building would begin at the Larkin Street corner of the old Main Library. For the next week, the early morning shadow would begin on Larkin Street moving south in increments of about 9 feet each day so by February 28th, when the bearing angle is about 71° East of South, the building shadow would be intercepted by the new Main Library Building. Day by day, more of the building shadow would be intercepted by the new Main Library. Only when the bearing angle is close to 89° East of South could the building shadow, if it were long enough, reach the Civic Center Plaza. However, the shadow at that time would not reach beyond the sidewalk of the Civic Center Plaza at the corner of Larkin and Grove Streets (elevation 50 ft., SF Datum). Thus, there would be no new shadow cast on the Civic Center Plaza. Were there to be an elevator overrun or equipment penthouse on the tower, the shadows from these structures would reach onto the Civic Center Plaza itself, but the area covered would be very small and the duration would be only a few minutes. The clear time interval during which this could occur would be an approximately 3 to 4 day period between April 2 and April 6 (with a similar interval in August).



SHADOW FAN
SEVENTH AND MISSION ALTERNATIVE

Figure 4.16-2

Fulton Street and UN Plaza. During the months of December and January (as well as November) the shadow from the building tower would reach UN Plaza and Fulton Street.[1] It would reach Fulton Street also in February (as well as October). The building tower would shadow relatively small portions of Fulton Street and UN Plaza until as late as about 9:30 a.m. The existing shadows, primarily from Market Street buildings on Assessors Block 3702 adjacent to the site and from the Orpheum Theater, already cover most of Fulton Street and UN Plaza at these times. At about 9:00 a.m. December 21st, about 5% of the shadow reaching the open space would be from the project, but only for a very short duration. By February 21st the early morning shadow of the building would begin at the Larkin Street corner of the old Main Library. By 9:00 a.m. the shadow would have receded from Fulton Street and would not reach UN Plaza during the day. By March 21st, there would be essentially no shadow on Fulton Street from the building. Throughout the rest of the Spring and Summer, there would be no new shadow on either Fulton Street or UN Plaza. Morning shadowing would begin again in October. Although these spaces would experience some new shadowing, neither is protected under Section 295.

Because implementation of this alternative would not violate Section 295, shadow impacts would be less than significant.

C. Purchase Alternative

The Purchase Alternative would involve purchasing an existing structure. Therefore, there would be no additional shadow impacts from the project.

D. Lease Alternative

The Lease Alternative would involve leasing an existing structure. Therefore, there would be no additional shadow impacts from the project.

E. No Action Alternative

Under the No Action Alternative, federal agencies would continue to be housed in existing owned and leased space.

3. Cumulative

The assessment of project impacts assumes cumulative shadow impacts.

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[1] The time and duration of shadowing were quantified by Environmental Science Associates. Their reports are on file with GSA and the Planning Department.

4. Mitigation Measures

No mitigation measures are required.

5.0 GROWTH-INDUCING IMPACTS

5.1 REGIONAL SETTING

Section 15126 (g) of the CEQA Guidelines requires that EIR's discuss the potential growth inducing impacts of a proposed project. Specifically, the Guidelines state:

> *Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Growth-inducing impacts can result from development that directly or indirectly induces additional growth, which is more intense than that currently anticipated in general or community plans. An example of this would be the redesignation of property planned for agricultural uses to residential uses, thereby accommodating population growth. Another example would be the expansion of urban services to a nonurban site, which may encourage conversion of land from nonurban to urban uses.

A project alternative is considered to have growth inducing impacts if it will encourage the use of land for a more intense use than is anticipated by current plans, or if it will result in increased infrastructure capacity and thereby encourage further growth. In general, growth inducing impacts are long-term by nature.

The proposed federal office building is intended to centralize existing federal agencies in one location. By virtue of their locations in or near the CBD, each of the alternatives (except the No Action Alternative) represent appropriate uses for their respective sites. As such, a federal office building on either the Tenth and Market or Seventh and Mission site would not intensify current densities. In the case of the Purchase or Lease Alternative, the structure or structures already exist and therefore would have no growth-inducing impacts.

The proposed project itself would not generate any additional jobs as federal employees would basically be relocated from leased space to the new building. Space which would be vacated as a result of implementing all but the No Action Alternative could accommodate new uses in the city. Whether or not new uses would move into the city is totally independent of project

implementation. Other factors such as socioeconomic conditions and trends in the region would influence how quickly vacated federal space would be filled.

Overall, the growth-inducing impacts of the proposed federal office building are limited to increases in demand for service-related activities. This could arise if either the Tenth and Market or Seventh and Mission Alternatives were implemented and would most likely occur in the immediate vicinity of the proposed project. If either the Purchase or Lease Alternative were implemented, no growth-inducing impacts are anticipated. Because both of these alternatives represent existing structures intended for office uses, service-related activities will most likely already be located in the vicinity.

6.0 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL IMPACTS

The proposed construction of a federal building within the City of San Francisco would result in several significant environmental impacts. These significant adverse impacts can generally be reduced through incorporation of proposed mitigation measures outlined in this EIS. Other impacts would, however, remain significant even with mitigation.

In accordance with Section 21067 of the CEQA, and with Section 15040, 15081 and 15082 of the State *CEQA Guidelines*, the purpose of this chapter is to identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project, or by other mitigation measures that could be implemented.

The findings of significant impacts are subject to final determination by the City Planning Commission as part of its certification process for the EIR. This chapter in the Final EIR will be revised, if necessary, to reflect the City Planning Commission's findings.

6.1 TENTH AND MARKET ALTERNATIVE

The project will result in an intensification of land use on the Tenth and Market Alternative site. However, the proposed office building is not incompatible with surrounding uses. The existing uses (abandoned gas station/car wash, two- to four-story buildings) would be permanently changed, displacing some current occupants. The Redevelopment Agency is responsible for relocating tenants that would be disrupted by construction of the building on this site.

6.2 SEVENTH AND MISSION ALTERNATIVE

As with the Tenth and Market alternative, implementation of the proposed project at the alternative site would intensify the current land use on the site. The existing character of the site and surrounding area would be permanently changed with the construction of a federal office building.

6.3 PURCHASE ALTERNATIVE

The purchase of an existing building or buildings would not create any significant irreversible environmental impacts.

6.4 LEASE ALTERNATIVE

The lease of an existing building or buildings would not create any significant irreversible impacts.

6.5 NO ACTION ALTERNATIVE

Under the No Action Alternative, no demolition would take place and no new building would be constructed. Federal agencies in San Francisco and the surrounding Bay Area would continue to utilize existing Federally-owned and leased space. Although this alternative would produce no significant environmental impacts, it would cause federal agencies to continue to be housed in separate facilities, thereby reducing the efficiency of operations.

7.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

A variety of short-term and long-term impacts can result from the proposed action. However, the number and magnitude of the impacts will vary depending on whether a new building is constructed or an existing structure is leased or purchased.

During the construction of a new federal building, surrounding land uses would be temporarily impacted by dust, construction equipment emissions and noise, and adverse visual impacts. These impacts are considered temporary and could be mitigated to less than significant levels through measures recommended in Section 4.0.

The long-term effect of the Tenth and Market Alternative and Seventh and Mission Alternative sites would be the introduction of a relatively large structure, associated parking areas, and other amenities to urban sites on which various structures are currently situated. Construction of the project components would constitute a change in land use for these sites, and, in general, would serve as appropriate infill. As with any form of land use intensification, some physical and aesthetic components of the human environment would be affected. The consequences of this urbanization would include increased traffic volumes, incremental degradation of local and regional air quality, additional noise, visual alteration of the site, and incremental increases in demand for public services and utilities for those alternatives that involve new construction (i.e., the Tenth and Market and the Seventh and Mission Alternative sites). Nonetheless, the proposed project would benefit the local community and federal government by consolidating several federal agencies (refer to Section 1.0, Purpose and Need). Implementation of the proposed mitigation measures would reduce impacts to the maximum extent feasible. In addition, if the Tenth and Market Alternative is selected, cleanup of toxic materials and contaminated soils would enhance the long-term environmental safety of the site.

The No Action Alternative would preserve, in the short-term, the current use of the Tenth and Market Alternative and the Seventh and Mission Alternative sites. Over the long term, implementation of this alternative would preclude resolution of several federal agency concerns (i.e., fragmentation of agencies, operational inefficiency, paying rent).

Project Alternatives Other Than No Action

All project alternatives calling for construction of a federal office building would only affect urbanized areas. Therefore, although infeasible, alternative land use opportunities such as agriculture, mining, etc., would be permanently foreclosed, other urban use opportunities would be foregone over the short term. As discussed in Section 8.0, some nonrenewable resources would be consumed during project construction and operation. In the context of available supplies, however, the quantities consumed would not be significant.

8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

This section identifies the use of nonrenewable resources, the commitment of future generations to the proposed uses, and the irreversible damage that would occur from development of the project sites.

8.1 TENTH AND MARKET ALTERNATIVE

Implementation of the Tenth and Market Alternative would result in the following irreversible and/or irretrievable significant environmental changes:

- Commitment of land which would physically be altered to create a federal building, internal access, parking, and associated amenities.
- Utilization of various nonrenewable materials such as minerals, metals and petroleum-derived products for construction.
- Utilization of nonrenewable petroleum products over the life of the project for purposes such as heating, cooling, lighting, operation of appliances and vehicular transportation.
- Increased demand for public services and utilities by project occupants representing a permanent commitment of these resources.
- Incremental increases in traffic levels, resulting in associated quality of life changes perceived as congestion, increases in ambient noise levels and degradation of local and regional air quality.
- Increased emissions from project-generated traffic and stationary sources would incrementally contribute to processes which may lead to global environmental destabilization. These processes include global warming and ozone depletion.
- Loss of localized views.

8.2 SEVENTH AND MISSION ALTERNATIVE

Implementation of the Seventh and Mission Alternative would result in irreversible and/or irretrievable significant environmental changes similar to those listed under the Tenth and Market Alternative.

8.3 PURCHASE ALTERNATIVE

The Purchase Alternative involves an existing, operational building. As a result, implementation of the Purchase Alternative to house federal agencies would not create any new irreversible and irretrievable commitments of resources.

8.4 LEASE ALTERNATIVE

Similar to the Purchase Alternative, the Lease Alternative involves an existing, operational building or buildings. Leasing space to house federal agencies would therefore not create any new irreversible and irretrievable commitments of resources, other than those materials used during tenant alterations.

8.5 NO ACTION ALTERNATIVE

The No Action Alternative would result in no commitment of resources at this time other than those currently being used.

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10.2 ORGANIZATIONS, AGENCIES AND INDIVIDUALS CONTACTED

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ACRONYMS

AB 939	Assembly Bill 939
ABAG	Association of Bay Area Governments
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BART	Bay Area Rapid Transit
BBI	Bureau of Building Inspection
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CAL/OSHA	California Occupational Safety and Health Agency
CAP	Clean Air Plan
CAQS	California Air Quality Standards
CBA	Central Business Area
CBD	Central Business District
CCAA	California Clear Air Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CNDDB	California Department of Fish and Game National Diversity Data Base
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
dB	Decibels
dBA	A weighted sound level
DEIS/EIR	Draft Environmental Impact Statement/Environmental Impact Report
DNL	Day Night Average Level

DOD	Department of Defense
DPW	Department of Public Works
DTSC	Department of Toxic Substances Control
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
FEIR	Final Environmental Impact Report
FHWA	Federal Highway Administration
FITS	Fire Inspection Trading System
GSA	General Services Administration
GSF	Gross Square Feet
HHS	Heath and Human Services
HUD	Housing and Urban Development
LOS	Level of Service
MGD	Million Gallons Per Day
MUNI	San Francisco Municipal Transit
NEPA	National Environmental Policy Act
NO	Nitrogen Oxygen
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_x	Oxides of Nitrogen
NPS	National Park Service
NRHP	National Register of Historic Places
OSF	Occupiable Square Feet
PM_{10}	Particulate Matter
RTC	Resolution Trust Corporation
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District

SEWPCP	South East Water Pollution Control Plants
SFBC	San Francisco Building Code
SFD	San Francisco Datum
SFDPH	San Francisco Department of Public Health
SFFD	San Francisco Fire Department
SFRA	San Francisco Redevelopment Agency
SO_2	Sulfur Dioxide
TOC	Total Organic Compounds (Hydrocarbons)
TPH	Total Petroleum Hydrocarbons
UBC	Uniform Building code
UST	Underground Storage Tank
V/C RATIO	Volume to Capacity Ratio
VOCs	Volatile Organic Compounds
WPCP	Water Pollution Control Plant
WSO	Weather Service Office

GLOSSARY

Aesthetic - That which people find beautiful or attractive. The quality of being aesthetic is not the opposite of "practicality" or "reality", but is simply another way of experiencing the world. Thus, blue skies, uncontaminated water, and uncluttered urban landscapes all have aesthetic impact, because they imply health, pleasure, and security.

Air Pollutant - Chemical compounds which are emitted into or formed in the atmosphere, including ozone, oxides of nitrogen, sulfur dioxide, hydrocarbons, carbon monoxide and particulate matter.

Air Pollution - The concentration of contaminants in the air when not prevented by the normal dispersive ability of the air and when interfering directly or indirectly with man's health, safety, or comfort or with the full use and enjoyment of his property.

Air Quality Standards - The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area.

Ambient - Surrounding; encompassing on all sides.

Carbon Dioxide (CO_2) - A colorless, odorless, nonpoisonous gas that is a normal part of the ambient air, CO_2 is a product of fossil fuel combustion, and some researchers have theorized that excess CO_2 raises atmospheric temperature.

Carbon Monoxide (CO) - A colorless, odorless, highly toxic gas that is a normal byproduct of incomplete fossil combustion. CO, one of the major air pollutants, can be harmful in small amounts if breathed over a certain period of time.

CEQ - The President's Council on Environmental Quality is the agency responsible for the oversight and development of national environmental policy. Created by NEPA, CEQ also shares this responsibility with EPA.

Cumulative Effects - Effects that are the result of incremental impacts of an action, when added to other past, present, and reasonable foreseeable

future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions.

Decibel (db) - Logarithmic measure of the magnitude of a particular quantity (e.g., sound pressure, sound power, intensity) with respect to a standard reference value (e.g., 20 micropascals for sound pressure).

Direct Effect - Impacts that are caused by an action and occur at the same time and place as the action.

Environmental Impact Statement - A full disclosure, detailed report which, pursuant to Section 102(2)(C) of NEPA, identifies and analyzes the anticipated environmental impacts of a proposed GSA action and discusses how the adverse effects will be mitigated. It is prepared in two stages: a draft statement which is made available to the Environmental Protection Agency and the public and a final statement which is revised to reflect comments made on the draft EIS.

Expansiveness - The tendency of high clay content soils to swell when wet and shrink when dried.

Floodplain - The lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands, including at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. The base flood plain shall be used to designate the 100-year flood plain (1 percent chance floodplain). The critical action flood plain is defined as the 500-year flood plain (0.2 percent chance flood plain).

Geologic Hazard - A feature or condition that, if undetected, may seriously jeopardize offshore drilling and, once identified, may necessitate special engineering procedures or relocation of a well. Such hazards may include unstable bottom conditions or underwater canyons.

Groundwater - The supply of fresh water under the earth's surface in an aquifer or soil that forms a natural reservoir for man's use.

Hazardous Material - A substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or in serious irreversible, or incapacitating reversible illness; or 2) pose a substantial present or potential

hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

Hazardous Waste - A hazardous material ready for discard.

Hydrocarbons - Air pollutant compounds containing hydrogen and carbon.

Indirect Effect - An effect that is caused by an action and occurs later in time, or at another location, yet is reasonably foreseeable in the future.

Lead Agency - The federal agency that has the primary responsibility for preparing an Environmental Impact Statement.

Liquefaction - A process by which relatively soft, watery sediments liquefy during moderate to intense seismic groundshaking.

Long-Term Impact - Long-term impacts are those that will last long after the project is completed, such as increased demand for public services, unavoidable pollution impacts, and irreversible commitments of resources.

Mitigation - Measures which avoid, minimize, rectify, reduce or compensate for the adverse effects of an action.

MGD - Millions of gallons per day; expresses rate of flow.

NEPA - National Environmental Policy Act; Federal legislation that establishes environmental policy for the nation. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains "action-forcing" procedures to ensure that federal agency decision-makers take environmental factors into account.

Ozone - A pungent, colorless gas that is a strong irritant which attacks the respiratory system and damages crops and other vegetation.

Particulates - Airborne particulate matter consisting of a wide variety of particle sizes and composition. Generally, particles less than 10 microns are considered to be air pollutants.

Runoff - The portion of rainfall, melted snow or irrigation water that flows across ground surface and eventually returns to streams. Runoff can pick up pollutants from the air or the land and carry them to the receiving waters.

Scenic Variety - Relative variations in natural characteristics such as landscape character, landforms, shorelines, vegetation, drainages, and, in more urban areas, factors which affect the overall image of the urban environment.

Scope - The types of actions to be included in a project, the range of alternatives, and the impacts to be considered.

Scoping Process - The early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

Seismic - Pertaining to, characteristic of, or produced by earthquakes or earth vibration; having to do with elastic waves in the earth.

Short-Term Impact - Short-term impacts are those project effects that will extend beyond the construction phase but for only a short period of time. For example, erosion will continue to occur after construction is completed until vegetation has grown enough to hold the soil in place, often resulting in short-term impacts on water quality.

Significant - In relation to environmental analysis, the term includes considerations importance and magnitude, primarily the former.

Subjective - That which cannot be measured according to agreed upon standards or techniques. Whether or not such agreed upon standards or techniques exist is not related to the importance or significance of an environmental impact question.

Subsidence - The sinking of ground surface caused by compression or collapse of ground material.

Superfund - The Federal Comprehensive Environmental Response, Compensation, and Liability Act; adopted in 1980 to establish a program to identify sites where hazardous substances have been or could be released into the environment; to ensure that they are cleaned up by responsible parties or the government; to evaluate damage to the natural environment; and to create a claims procedure for parties who have cleaned up sites or spent money to restore natural resources.

Zoning Ordinance - The Zoning Ordinance outlines standards for building, site size, height, setbacks, lot coverage, minimum unit sizes, landscaping, parking, signs, fences, and other development features.

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